

verdict must be passed. There is a lack of unity in the pages, and a much more serious lack of appreciation of the best literature (even that in English) on the subject. Books of this order have been frequently published, and have done much good in arousing the public to an intelligent interest in the lives of the defective classes. In 1835 Mr. John R. Burnett published at Newark, N.J., his 'Tales of the Deaf and Dumb,' which, though introducing much irrelevant matter, shows a deeper insight into the mental condition of the deaf-mute than the pages of Dr. Seiss; and, best of all, the 'Lost Senses,' by Kitto, contains a highly valuable description of the world, from the deaf man's point of view, by an eminent and observant scholar. Neither of these sources seems to have been utilized by the author. Again, in discussing intermarriage of near relatives as a cause of deafness, the author leaves the most interesting contribution to the subject (the memoir of Prof. Graham Bell) with a merest notice, though this is one of the topics to which he devotes most space.

The statistical element in the volume is as good as any thing we have. There are about thirty-five thousand deaf-mutes in the United States, but the defective method of taking the previous statistics makes it impossible to say whether deaf-mutism is on the decrease or not. The most probable average ratio of deaf-mutes to the population at large is 1 to 1,500, and this would give about a million of deaf-mutes in the world; and yet (in the United States at least, and probably elsewhere) the deaf form the smallest element of the defective classes, including under this term the blind, deaf, idiotic, and insane. Deafness, however, is a disease of childhood, and the number of deaf persons of school age is double that of the blind. It is interesting to add that there are about six deaf males to five deaf females, and that the notion that the deaf have an immunity from other diseases of the sense-organs is not borne out. Among the causes of deafness the intermarriage of near relatives is regarded as a very serious one. While some authors look upon such marriages as harmless when both parties are of a sound constitution, yet the bulk of the evidence is decidedly opposed to such unions, and finds in their offspring an undue proportion of nervous defects of all kinds. That the intermarriage of deaf-mutes is a fertile source of the increase of deaf-mutes is now generally admitted, and some regard one-third of all cases as due to this origin. A very large number of deaf-mutes are deaf from birth; and of those who become deaf, a very large percentage lose their hearing in the first, second, or third year of life. After this the liability to deafness rapidly decreases.

The relation between deafness and muteness is not a necessary one: it is because the ear educates the vocal mechanism that deaf persons become mute, not because their vocal organs are not correctly formed. This fact makes it possible to teach the deaf to vocalize; and the system by which they are taught to read the sounds on the lips of the speaker, while they answer by speaking as well as they can, is already the most widely adopted, and seems destined to supersede the finger-alphabet for general purposes. The question whether the blind or the deaf suffer the worse affliction has often been asked; and it is not generally known that on this point there is quite an agreement, among those most competent to judge, in favor of the blind. The deprivation of spoken language is in our civilization the most serious deficiency. The unsympathetic nature of the deaf as contrasted with the cheerfulness of the blind, as well as the fact that eminent blind persons are much more numerous than eminent deaf ones, speak for blindness as the less serious loss.

The history of the treatment of the deaf-mutes is an interesting one. Among savages they were generally considered as monsters, and put to death; for a long time they were held on a par with idiots; and the idea of their being educable was regarded as preposterous. When it is remembered that the first institute for their instruction was founded in 1765, and that the demonstration not long before of a deaf-mute's capacity to read was regarded as a miracle, one appreciates the truly modern mode of regarding them. It is not many years ago that they were first regarded as having the right of citizenship and other legal privileges.

While Dr. Seiss has thus put together in a shape likely to attract readers some useful information, he has left the field free for a really valuable and scientific treatise on deaf-mutism. Such a treatise

should contain a full account of the way in which they were regarded by different peoples, a history of the methods used to educate them, a psychological analysis of their state as illustrated by recent research, with special attention to their language, a good account of the physiology and pathology of deafness, and as much biographical matter as is really authentic. Such a general cyclopædia of deaf-mutism, and of blindness too, would be a great addition to the scientific appreciation of a most interesting portion of the human species.

NOTES AND NEWS.

THE Aristotelian Society of London has issued a very attractive programme of its winter work. The president, Mr. S. H. Hodgson, read a paper entitled 'The Unseen World' on Nov. 7, and the subsequent meetings are to be devoted to the following subjects: Nov. 21, 'The Psychological Laboratory at Leipzig,' Prof. J. M. Cattell; Dec. 5, 'Is Mind Synonymous with Consciousness?' the president, Messrs. S. Alexander, Bernard Bosanquet, D. G. Ritchie, and G. F. Stout; Dec. 19, 'Philosophy during the Period of the Renaissance,' Miss C. E. Plumptre; Jan. 9, 1888, 'Darwinism in Relation to Design,' G. J. Romanes; Jan. 23, 'The Philosophical Importance of a True Theory of Identity,' Bernard Bosanquet; Feb. 6, 'Wundt's Theory of Apperception,' J. S. Mann; Feb. 20, 'The Real Essence of Religion,' Rev. E. P. Scrymgeour; March 5, short papers on various subjects; March 19, 'Attention,' G. F. Stout; April 9, 'Heraclitus and his Philosophy,' Dr. Clair J. Grece; April 23, 'Conscience Theories,' Pasco Daphne; May 7, 'What is the Distinction between Desire and Will?' Professor Bain, W. R. Sorley, J. S. Mann; May 28, 'The Demarcations and Definitions of the Subject Sciences,' Professor Bain.

— The second number of the *Journal of Morphology* will appear about the first of January. The endeavor has been to produce, without counting expense or effort, a journal that will stand in the very first rank, and worthily represent its department of American science. The first number has been out long enough to be passed upon by the scientific public, and we think we may say without hesitation that the verdict has been as favorable as could possibly have been desired. Professor Mark of Harvard University writes, "The first number of the *Journal of Morphology*, so anxiously awaited by zoölogists, seems to me to surpass in every way the expectations even of those who have had the highest hopes for its success. Evidently no pains have been spared by either editor or publisher to make it first class. Every one in the country interested in zoölogy will be justly proud that at last we possess a zoölogical magazine which is equal to the best European publications." As a specimen of foreign opinion, we may quote from Prof. J. B. Carnoy of Louvain, Belgium: "This new review is splendid. I congratulate you sincerely on having treated science as it deserves." Of course, the expense of such a publication is very great, and the circulation necessarily limited; but it is, of course, very desirable that the journal should be self-supporting. All interested should at once send in their subscriptions to Ginn & Co.

— At a meeting of the Engineers' Club of St. Louis recently, Professor Nipher exhibited a steam-pipe 5 feet long and 6 inches in diameter, one end of which had been closed with a plain cast-iron cap. The cap of the pipe had been blown off bodily, without being broken up. The break extended around the cap just at the end of the pipe which had been screwed into it. He explained that the cap had been blown off by a ball from a Winchester rifle. This was done by standing the pipe vertically on its closed end, filling it with water, and firing vertically down upon the water. The floor upon which the pipe stood had yielded, and the cap of the pipe had been forced down so quickly that the pipe could not follow, so that the cap and pipe parted company. To force this cap off required a force of between 135,000 and 150,000 pounds, or about 70 tons. The ball was a 38-caliber ball, and the charge was the ordinary one of 40 grains of F. G. Dupont rifle-powder. The pipe weighed, exclusive of the cap, 96 pounds, and the cap weighed 9 pounds. The ball was greatly flattened by the water, but had not battered against the bottom of the pipe. Other experiments showed that the ball was stopped by the water by the time it had reached a depth of one foot.

