views were disregarded in Canada. Although the principal object of the expedition has failed, its scientific results are considerable. These consist chiefly of the meteorological and hydrographical observations of two years, from the fall of 1884 to the fall of 1886, and other occasional remarks of the observers. The results of these observations are laid down in a meteorological atlas of Hudson Bay, but it seems to us that the available material is too scanty for constructing the monthly isothermal lines over so vast a territory. The report is accompanied by a plan of Churchill Harbor and York Roads (at the mouth of Nelson River), from the surveys of Lieutenant Gordon. The general track-chart is not very elaborate, and in many parts not up to date. Several changes in the coast-line appear, for which no evidence is given; e.g., the division of the main island of Southampton into two parts. The publication of several charts and plans based on surveys of the expedition is promised at the end of the report.

ETHNOLOGY.

The Eskimo Tribes.

DR. RINK, who has for a long time maintained the American origin of the Eskimo, has published the results of his long-continued observations and studies in the eleventh volume of the *Meddelser an Grönland*. Fortunately the volume, the publication of which has long been wished for by all students of Arctic America, is written in English, and thus made accessible to a wide circle of readers. Rink has propounded his views on the origin of the Eskimo in several papers, which were published in various journals. He believes that they descended from the interior of Alaska to the coast of the Arctic Ocean, and gradually spread eastward. His arguments, which form the first part of his book, are based on a comparison of the implements, dress and ornaments, domestic industry and arts, religion and folk-lore, and sociology of the Eskimo of the various parts of Arctic America. The results of this investigation are, that the hunting-implements are the more highly developed the farther we proceed eastward, that the style of dress and habitations show a gradual approach to the Greenland style from west to east, and that the western tribes occupy a higher stage of social organization than the eastern ones. Among the customs which prevail among the western tribes, but gradually disappear eastward, he mentions the use of the labret, and the religious festivals in which masks are used.

Conclusions drawn from these facts are necessarily open to discussion, as these phenomena may be explained in different ways. I think attention should be called to the fact that all the peculiarities of the western tribes may be derived from an influence of the North-west American culture. We have the extensive use of masks, the peculiar wooden hat of the southern Eskimo tribes, the use of the labret, the festivals in which property is given away, the houses built on the same plan as Indian houses, the sweat-bath, the existence of slavery, and the high development of the art of carving. The existence of so many similar or identical phenomena in two neighboring nations cannot be fortuitous. Besides, I have to mention that the folk-lore of the tribes of British Columbia refers to the Eskimo country and to the Eskimo as plainly as possible. The legends of tribes of Vancouver Island speak of a country in the far west, where the sea is always covered with ice, where the nights are very long, and where people live who use skin boats. Considering the great uniformity of Eskimo life all over Arctic America, I cannot but conclude that here an immediate influence of the North-west Americans upon the Eskimo had place, and that west of the Mackenzie we do not find the latter in their primitive state of culture. It is not impossible, that, in consequence of this influence, inventions and customs which were originally Eskimo (as the kayak) became more neglected than they are in other regions where foreign influences were not so strong.

But we have to consider several other points. The use of masks representing mythical beings, which is peculiar to North-west American tribes, is not entirely wanting in the east. The giving-away of property at certain festivals, and the use of the singing-house, with a central fire and places for the people all around the wall, may also be traced as far as Davis Strait. It may even be that the plan of the stone or snow house of the central Eskimo, with elevated platforms on three sides of a central floor, must be traced back to a square house similar to that of the western tribes.

I will not enter into a discussion of the similarity between Eskimo and Indian folk-lore, as we are not sufficiently informed about this subject. The few traces which are common to both are so wide-spread that they cannot be considered proof of an early connection between these nations. The story of the dog who was the ancestor of certain tribes, the transformation of chips of wood into salmon, the idea that animals are men clothed in the skins of animals, stories of children who were deserted by their relatives and became rich and powerful by the help of spirits, are common to the folk-lore of North-west America and the Eskimo.

It seems that the only safe conclusions one can arrive at are the following. The Eskimo reached an ice-covered ocean as one body. At that time their religious ideas and implements were similar to what we observe at the present time. They knew the kayak and the sledge, they lived probably in large square houses, they had domesticated the dog, and it is not improbable that they had certain festivals which referred to the seasons or to the sun. Besides this, we are inclined to suppose that they were fishermen, and were accustomed to the use of boats before they came to the Arctic Sea. These conclusions seem to point out that the Eskimo spread from the great rivers of central Arctic America.

In order to make satisfactory progress in the puzzling problem of the origin of the Eskimo, the influence of the North-west Americans upon their Arctic neighbors, and the origin of the folk-lore of the Tinne and western Eskimo, must be studied. In our present state of knowledge, we can consider the American origin of the Eskimo only a theory, which is more probable than an immigration from Asia.

The principal part of Rink's book is an excellent treatise on the Eskimo grammar, and a comparative list of the independent stems of the Eskimo dialects. The stems are arranged in alphabetic order, and to each is added the dialect in which it occurs. As the Greenland dialect is by far the best known, it is made the basis of the list, and all other dialects are referred to it. A discussion on the modes of spelling applied by different writers and the probable differences of dialects precedes the linguistic part. We believe that the material for studying the phonetic laws of the Eskimo language is large enough to allow a more thorough investigation, and we consider the latter very desirable. Among the contents of the collection of stems, we have to call particular attention to the Greenland words occurring in traditions and in the sacred language of the priests. These words, as well as those which I collected among the central Eskimos, tend to show that many of the Alaskan stems which are lost in the common language still exist in the sacred language, and thus the most distant branches of the Eskimo stock are linked closer together. Besides, Rink has shown that a number of words that were considered exclusively western occur in certain derivations among the eastern tribes. Among these I mention the word *suk* ('man') of Alaska, which is found as *surosek* in the east. All recent researches tend to show that foreign influences upon the language are very slight, and the difference of dialect is probably entirely due to evolution.

The work of Dr. Rink will be highly appreciated by all ethnologists, and we have only to add the wish that the learned author will publish the originals of his large collection of Eskimo traditions, which would be highly welcome to students of American philology.

F. BOAS.

BOOK-REVIEWS.

The Children of Silence; or, The Story of the Deaf. By JOSEPH A. SEISS. Philadelphia, Porter & Coates. 8°.

THE object of this book is to excite interest in behalf of the deaf and dumb; and the means by which the author aims to do this is by presenting statistics of the numbers thus afflicted, the sad condition in which the deprivation leaves them, and an account of what has been done for their relief. Judged by the lenient standards which one must apply when considering it as a benevolent enterprise, the work is quite successfully done, and throughout urges the reader to a deeper knowledge of the subject than is here available. Regarded as a contribution to educational science, a less favorable

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. Catteli; 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. Scrymgour; 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.