first case, that the pattern has grown smaller, and, in the second case, that it has grown larger.

The writer of this note has never been able to make things appear to him in this way. When the horopter is nearer than the object, the pattern, though it appears smaller, seems also distinctly more distant, and when the horopter is farther away, the pattern seems larger and nearer. When one has learned the trick of causing the adjacent parts of the pattern to overlap and coalesce perfectly, the experiment may be tried as often as one likes, and I have tried it often and under many different conditions, always with the same result. Of course, care has always been taken to make sure of the point at which the axes of the eyes converge, either by converging them at first on the tip of the finger and then removing it, or by moving the finger to and fro in the field of vision after the eyes have become fixed, the separate images becoming closer together or farther apart, according as the finger approaches or recedes from the horopter. The fact is, as is well known, that an estimate of an object's distance is always an inference from various data furnished by the eye, as the visual angle, the position of the horopter, and the muscular movement in each separate eye necessary to effect accommodation. For distant objects the last mentioned fails, and aërial perspective comes in to aid; but for objects that can be used in this experiment the three factors mentioned are those on which the eye relies. The conditions in the experiment being unique, the data obtained are discordant, and it is not wonderful that different persons, under the circumstances, disagree in their estimates of the distance of the pattern.

Take the case where the eyes are squinted. The pattern being seen clearly, and no accommodation being necessary, each eye separately infers that the object has remained stationary. The horopter having advanced, the two eyes jointly agree that the pattern is nearer. But, if it is nearer, the angle it subtends remaining the same, the pattern must be actually smaller. But, on the contrary, no accommodation for bringing it nearer has been necessary, so, if it is smaller, that must be an apparent effect due to its having moved back. The conclusion to which one comes must be influenced by the relative weight that he is unconsciously accustomed to give to the different data on which his estimate of a distance is ordinarily based. And having interpreted the phenomena in one particular way at first sight, this becomes habit, and what may have been determined by chance the first time one tries the experiment becomes a settled thing. Often as I have tried it, however, I am always conscious of a queer feeling of surprise as the pattern comes out clearly before me — a feeling that all is not quite right, due, of course, to the unconscious clashing of these contradictory data. I may add that in my own case, and I suppose in that of others, in monocular vision an object appears distant or near as the eye is fixed respectively on something nearer than it or something beyond it. As accommodation is associated always with concentration of the axes of the eyes, it is doubtless impossible to accommodate the focus perfectly to the pattern while the horopter is in a different plane, hence, as in the case of the writer, this may tip the balance in favor of his peculiar way of inferring from the clashing data.

NOTES AND NEWS.

ALL lovers of ferns will be glad to learn that an association for the study of these plants by correspondence has been formed. The work will be made as easy as possible for beginners, and all who are interested in ferns are invited to join. Applications should be made to the secretary, Miss A. May Walter, 516 Spruce Street, Scranton, Penn., or to Willard N. Clute, Binghamton, N.Y.

— Professor Daniel G. Brinton, M.D., LL.D., of Philadelphia, received on May 10 the further honorary degree of "Doctor of Science" from the University of Pennsylvania. His works are numerous, and have been principally upon linguistics, ethnology, and American archæology.

— The Chicago Academy of Sciences has undertaken the collection of views from all localities in Illinois, and adjacent parts of Indiana, Michigan, and Wisconsin, for the purpose of bringing together, where they may be accessible to all scientific workers, a complete series illustrative of the geological and natural history features of the region. The value of such a collection is apparent, and the Academy believes that, in the interest of science, it may reasonably expect the coöperation of all who may be in a position to assist in the work. While all views are acceptable, those illustrating the following features are especially desired: geology, topography, land, water, and forest scenes, farm life, public buildings, neighborhood characteristics, and, in general, anything characteristic or unique in the study of nature or man. In sending views, please observe the following directions: 1. Send photographs unmounted. 2. Send with each a careful description of (*a*) the locality, (*b*) objects shown, (*c*) direction of view, (*d*) by whom taken. Number descriptions and views to correspond.

— A meeting of the Victoria Institute was held at Adelphi Terrace on May 1, at which an address by Professor Maspero, embodying the results of his investigations during the past ten years as regards the places in Southern Palestine claimed, according to the Karnac records, to have been captured by the Egyptians in the campaign under Sheshonq (Shishak) against Rehoboam. M. Maspero pointed out the great help that the recent survey of Palestine had been in determining the localities referred to, and specially referred to the fact that the Egyptian letters, rigorously transcribed in Hebrew letters, gave almost everywhere the regular Hebrew forms in the Bible, "without change or correction." The paper was admirably read in the author's absence by Mr. Theo. G. Pinches of the British Museum, who afterwards added some remarks. The discussion was continued by several members, including Major Conder, R.E., who contributed many interesting details. During the discussion reference was made to the great interest taken in the question by the late Canon Liddon, who, on the occasion of Professor Maspero's former paper being read, pointed out that the identity of form of the words in the Egyptian and Biblical records pointed to the antiquity of the latter.

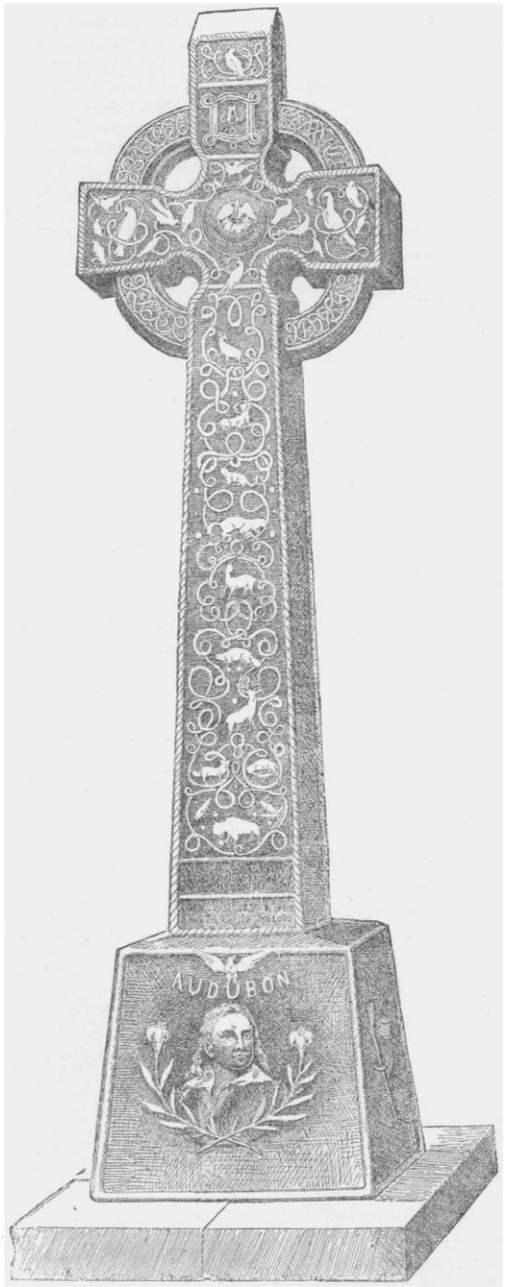
— Morris Phillips & Co. have issued a new edition for 1893 of "Abroad and at Home." This book is a guide of an unusual character, giving much information in regard to hotels, boarding-houses, restaurants, etc., of considerable value to those who intend to go abroad, or who intend to travel in this country. Last year, the book first appeared early in the summer, and during the three summer months three editions were called for. This year, new matter has been inserted descriptive of Atlantic City, Niagara Falls, the St. Lawrence, Adirondacks, and Saratoga Springs, and a summer-resort guide giving information regarding the leading hotels. A specially prepared chapter on Chicago also appears.

— "Miss Helen Keller, who may be regarded as the most remarkable person in this country when her natural deficiencies [blind and deaf] are compared with her graces and gifts," says *The Evening Star* of Washington, of May 11, "is now a guest at the house of Mr. Alexander Graham Bell in this city. Last evening a number of well-known gentlemen were also his guests and had an opportunity to see how extraordinary is the intelligence of this young lady and how more marvelous is her power of expression, not only by manual signs, but also by distinct and agreeable oral utterances. Among the guests was Senator Sherman. Professor Bell said to Helen: 'This is the birthday of Senator Sherman and we are going to drink his health. We want you to propose a toast. Do you know what that means?' As this was a new idea to the young lady it was explained to her. 'We want you to propose a sentiment in honor of this birthday,' said Professor Bell. Helen looked puzzled or thoughtful for a minute and then said slowly and with a sympathetic emphasis: 'I propose his health, happiness and prosperity. May he be as helpful to his country in the future as he has been in the past, and may he be blessed with all good things in this life and in the beautiful life to come.' During the evening the quickness and fitness of her answers to Professor Newcomb and other scientific gentlemen surprised everybody. So did her accurate repetition of Longfellow's Psalm of Life, and so did her keen enjoyment of stories told to her and of the conundrums with which she puzzled the friends who were talking with her. Her story is wonderful, and the skill of her teacher, Miss Sullivan, is admirable in the

highest degree. Besides Senator Sherman the following gentlemen were present: Senator Morrill, Professor Langley, Professor Gilbert, Maj. Powell, Professor D. C. Bell, President Gilman of Baltimore, the Danish minister, Mr. G. G. Hubbard, Mr. Pollok, President Gallaudet, Professor Newcomb, and Col. Britton. Here is what Miss Keller got off on one of the justices of the Supreme Court, who called to pay his respects on the occasion of the reception given her by Mrs Graham Bell the other evening: Helen asked the justice: 'Do you know my friend, Judge Holmes?' 'No, dear, he lives in Boston.' To which she replied, smilingly: 'Oh, I thought you knew him, because you see you are brothers-in-law.' The justice took in the bon mot and laughed heartily."

— The institution which was founded and endowed a few years ago in Washington by Professor Alexander Graham Bell for the increase and diffusion of knowledge relating to the deaf, and which has heretofore had its headquarters at 1334 Q Street, is to have a new home. The institution is styled the Volta Bureau, and in the past two or three years has issued a number of valuable books upon the education of the deaf. The work of the bureau has increased to such an extent that it has been found necessary to provide new quarters. To this end, ground was broken, within a few days, on the northeast corner of 35th and Q Streets for the proposed building, which has been planned and upon which work will be commenced at once. The first sod was turned by Miss Helen Keller, the remarkable deaf and blind girl whose history and wonderful development is known to readers of *Science* through recent publications. The ceremony of breaking ground was also participated in by Miss Elsie May Bell, Miss Marian Hubbard Bell and Master Douglass McCurdy.

— Rarely has a more interesting and beautiful memorial been raised to the memory of a man devoted to science than the monument lately unveiled in New York City to the eminent ornithologist, J. J. Audubon. The ceremonies took place on the afternoon and evening of April 26, and consisted of the dedication of the monument in Trinity Cemetery at 3.30, and a public meeting and addresses at 8.30 in the hall of the American Museum of Natural History, the principle address being a noble eulogy on Audubon, by Professor D. G. Elliott, president of the American Ornithologists' Union. The movement has been carried out chiefly through the agency of the New York Academy of Sciences. It was begun six years ago, and originated with Professor Thomas Egleston of the Columbia College School of Mines, who noticed the fact that Audubon's remains had lain for over thirty years in an obscure vault in a remote corner of Trinity Cemetery, almost unmarked, and wholly undistinguished by any proper memorial. He enlisted the interest of a few scientific friends, and the coöperation of the trustees of the cemetery, who offered an excellent site, free of expense. The matter was brought before the American Association for the Advancement of Science during its meeting in New York in that summer (1887) by Professor Daniel S. Martin, but no formal action was taken. At the opening of the meetings of the New York Academy of Sciences, in the autumn, Professor Martin again presented the subject, and a committee was appointed, consisting of Professor Egleston, as chairman, and Drs. N. L. Britton and D. S. Martin. To the labors of this committee, and especially of its chairman and secretary, Professors Egleston and Britton, the result now attained is due. Other societies were invited to coöperate, and have done so to some extent, especially the American Ornithologists' Union and the Agassiz Association. The amount sought was $10,000. About five hundred persons have subscribed in varying amounts, the whole exceeding the sum proposed, while the monument has cost somewhat less. A balance of over $1,000 will remain, which is to be held in trust permanently, as an "Audubon Memorial Fund," by the Academy of Sciences, and used for the publication of important scientific memoirs on subjects kindred to those of Audubon's studies and pursuits. The monument itself is a noble and striking work. It stands on a beautiful knoll, close to the 152d Street entrance, facing the point where Audubon Avenue is to be opened through to that street from the north, and close to the old estate, Aububon Park, where the great ornithologist passed his later years. It consists of a Runic cross, some fifteen feet high from the base, and is richly carved with appropriate designs, this treatment being possible, historically and æsthetically, upon the Runic cross. The nearly cubical base bears on its front a medallion head of Audubon; on the back an inscription of the manner of its erection, through the New York Academy of Sciences; and on the two sides designs of the hunter's and artist's outfit, respectively, with flowers particularly noted or described by Audubon. The shaft and arms of the cross are elegantly carved in scroll-work, interwoven with a series of birds



THE AUDUBON MONUMENT.

and animals of characteristic North American species, on the front and back respectively. The whole is unique and impressive, carefully studied in both its scientific and artistic details, and singularly happy and appropriate in conception. The material (Hudson River blue-stone) lends itself admirably to the work thus wrought, and the whole rests on a substantial granite base. The spot is beautifully laid out and kept by the trustees of the cemetery, and the whole enterprise reflects great credit on those who have planned and executed it, and is an honor to the Academy of Sciences, an ornament to the city, and a fitting tribute to the memory of the great ornithologist.