SCIENCE:

A WEEKLY NEWSPAPER OF ALL THE ARTS AND SCIENCES.

PUBLISHED BY

N. D. C. HODGES,

47 LAFAYETTE PLACE, NEW YORK.

SUBSCRIPTIONS.—United States and Canada.....$3.50 a year.
Great Britain and Europe..... 4.50 a year.
Science Club-rates for the United States and Canada (in one remittance):

1 subscription	1 year	.....	$ 3.50
2	" 1 year	.....	6.00
3	" 1 year	.....	8.00
4	" 1 year	.....	10.00

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VOL. XIII. NEW YORK, APRIL 19, 1889. No. 324.

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AN IMPORTANT QUESTION upon which Stanley's journey, according to his recent letter, may throw light, is the doubtful connection of the Mootan Nzige with the Aruvimi or with the Albert Nyanza. From a passing mention of this question in the letter, it would appear that Stanley inclines to the opinion that the lake belongs to the Kongo system. He states that it is far smaller than the Albert Nyanza, and this statement necessitates an important change in our maps of Central Africa. Mr. Wauters of Brussels, whose opinions regarding the hydrography of the Kongo basin deserve special consideration, has long maintained that the lake must belong to the Aruvimi system, as it would be impossible to account for the enormous amount of water carried by that river if it had its source west of the lake. Other geographers, among them A. Kirchhoff, have maintained the existence of a connection between the southern lake and the Albert Nyanza. In this case, the lake would belong to the Nile system. Undoubtedly Stanley's explorations will materially add to the solution of this interesting problem. His whole route led to entirely unknown territory, and will disclose another section of the western slope of the great East African highlands. Among the ethnographical notes contained in his letter, the discovery of a new tribe of dwarfs, called Wambutti, is noteworthy, as they add one more to the great number of these widely scattered dwarfish people which have become known recently. The Wambutti occupy an intermediate location between the Akka of the Welle, and Batwa of the southern Kongo affluents. The natives, among whom these dwarfs live, are described as "strong, brown-bodied, with terribly sharp spears," — a description which shows that they belong to the group of the peoples inhabiting the watershed between the Welle and Nile, and not to the Bantu.

THE STUDY OF THE DEAF.

THE April number of the *American Annals of the Deaf* contains much valuable information of a general as well as of a special nature. Professor Greenberger, in speaking of the difficulty often experienced in ascertaining whether a deaf-mute is idiotic or not, narrates a number of instances in which children have been placed in idiot-asylums who afterwards proved to be quite intellectual. He says that the brightest pupil, without exception, that he has ever had under his charge was a semi-deaf boy, who, on account of his partial hearing, had been mistaken for an idiot, and placed in a school for feeble-minded children before he was sent to a deaf-mute institution. He afterwards became an able editor and part-owner of a newspaper.

W. G. Jenkins, M.A., contributes a very valuable article on diction and idiom, and points out the great difficulty which learners of the English language experience in mastering it.

"At the end of four years, the ordinary pupil is in possession of a vocabulary of three or four hundred words. His habit of composition has become pretty well fixed by that time, and his later acquisitions are but expansions of the work already begun. The skeleton has been formed, and the more meat that can be added, the more satisfactory will be the result. The first three or four hundred words in a deaf pupil's vocabulary are short, easy words; and a suggestion to discourage synonymes is nothing else than a plea that the easy Saxon words already acquired be retained, in preference to the longer Latin equivalents. If a pupil has been taught to write, 'Mr. Smith built a house,' it would be better for him, to the end of his life, to use those words, when necessary, than to write, 'Mr. Smith erected a residence.' I do not think there can be two opinions on the wisdom of urging our pupils to use such words as 'buy,' 'lead,' 'begin,' 'hate,' 'end,' 'go,' 'hide,' 'whip,' 'letter,' 'famous,' in preference to 'purchase,' 'conduct,' 'commence,' 'abominate,' 'terminate' or 'conclude,' 'proceed,' 'conceal,' 'chastise,' 'epistle,' and 'illustrious.' It is desirable that our pupils should know every word they meet, but it is not desirable to use synonymes for the language already in their possession. To encourage the use of long words for the short, easy words already familiar, would bring us under Goldsmith's criticism of Dr. Johnson, of 'making minnows talk like whales.' The boy who wrote of making shoes on a conclusion (last), and the one who fermented on his father's farm, together with the Frenchman who wrote to his English friend, praying that 'he and his family might be pickled to all eternity,' might have expressed themselves very clearly had they been less ambitious for synonymes.

"If it were only possible to find out what words were best adapted to the requirements of every-day life, and what number could be practically taught in the few years at our disposal, a valuable aid in the work of instruction would be secured. Of the one hundred and fourteen thousand words in the English language, we must make up our minds to dispense with all but a thousand when we consider the written language of the deaf. The mastery, indeed, of five hundred words would be a most gratifying accomplishment. It is claimed, by no less an authority than Max Müller, that a well-educated English scholar, a representative of the best university, one who is familiar with Shakspeare and Milton, does not use more than three to four thousand words. The Hebrew Testament says all that it has to say in 5,642 words, while an English author says that in his parish the rural laborers have not more than three hundred words. However much we may mourn over it, the fact remains, that, if our pupils are to express themselves in grammatical language, we must be content with a limited vocabulary; and it is much to be feared that time spent in technical studies, in memorizing technical phraseology, is so much time taken away from practice in the language of the common people."

A. L. E. Crouter, M.A., contributes an article on the proper lo-

cation of an institution for the deaf, style of buildings, and best methods of lighting, heating, and draining. Among miscellaneous matter treated in the *Annals* we notice two reported cases of so-called cures of deafness by the "faith-cure" and "Christian science." One of these was a boy living in Japan, who was said to have had his hearing restored by the prayer of missionaries. This case was investigated by a trustworthy gentleman living in Tokio, where the case occurred. He writes: "The only foundation for the story of his cure by prayer was that at the time of the effort made in his behalf he seemed, or was imagined by those who so eagerly watched him, to hear the sound of the school-bell. I judge, from all I can gather, that there is nothing in the case which the intent watching of those interested will not readily account for."

The *Oregon Sign* remarks as follows on a reported restoration to hearing of a former pupil of the Oregon School by "mind-cure" or "Christian science:" "A Portland daily paper of a recent date names among others Miss Mary Lance, a deaf-mute young lady long a pupil in this school, as having her hearing partly 'restored' by nine 'treatments' by a 'mind-cure,' or so-called 'Christian science,' doctor. Miss Lance writes to friends here that she is as deaf as ever, and expects to return to school. There is, no doubt, science that is Christian, and Christianity that is science; but there is a great deal in the world that is neither science nor Christianity, for quackery has nothing to do with either. Newspapers do a great injury when they publish such nonsense, as deaf children are often kept out of school by a false hope that they may be cured."

THE MARINE BIOLOGICAL LABORATORY.

FROM Liebig's "*Welt im Glase*" arose the idea of public marine aquaria, first developed in London, then in many other cities on the Continent. The institution became popular, not only as a means of amusing and instructing the general public, but as an invaluable source of instruction for schools and universities. The hope was entertained for a time that such inland aquaria could be made useful to scientific men for the study of marine life. It soon became evident, however, that such study could be successfully prosecuted only at the seashore. The marine laboratory, with its aquarium, followed. The idea of maintaining marine stations for scientific work was first acted upon by Carl Vogt in Europe, and by Louis Agassiz in America; while one of the earliest, and by far the most successful, undertakings of this kind that the world has yet seen, is represented in the Naples Station, founded and directed by Anton Dohrn. The history of that institution has been often repeated, and is doubtless familiar, in all its essential features, to most of our readers. It is enough to say that it is an example of just what we have long needed in America.

"But what are the special attractions of marine life, that naturalists should so eagerly seek the seashore?" is a question sometimes asked. To this we may reply, that the ocean is the home of the lowest as well as the oldest forms of life, and it is in such forms that the mysteries of life can presumably be most nearly approached. Then there are abundance and variety, and certain important groups that do not occur in fresh water. To the luxuriance of the fauna and flora of the shore, is added that vagrant, pelagic life which is collected by ocean-currents, tides, and winds, and laid at one's feet as freely as if all nature pleaded for investigation. Moreover, the study of marine life has long been inadequately provided for, its advantages not having been generally recognized until within the last fifteen or twenty years. The comparative newness of the field, its infinite richness, and its importance in determining the origin, history, and relationships of living forms, account for the intense interest recently awakened in marine laboratories.

The new laboratory at Wood's Holl is nothing more than a first step towards the establishment of an ideal biological station, organized on a basis broad enough to represent all important features of the several types of laboratories hitherto known in Europe and America. It should be provided eventually with means for sending men to different points of the coast to undertake the investigation of subjects of special interest, thus adding to the advantages of a fixed station those of an itinerant laboratory.

The Marine Biological Laboratory is an outgrowth of a seaside laboratory maintained at Annisquam, Mass., from 1880 to 1886, by the Woman's Education Association of Boston, in co-operation with the Boston Society of Natural History. In 1886, efforts were made by the association to place the laboratory on an independent and broader foundation. A circular letter was addressed to many of the leading biologists of the country, reciting what had been already done at Annisquam, and asking for co-operation and counsel. The replies received were most encouraging, testifying to a general and hearty approval of the enterprise, and promising co-operation and support.

Accordingly, invitations were issued, and a preliminary meeting was held on March 5, 1887, in the library of the Boston Society of Natural History. Numerous addresses were made, and a committee was appointed to perfect plans for the organization of a permanent seaside laboratory, to elect trustees, and to devise ways and means for collecting the necessary funds.

The funds having at length reached such an amount as was deemed adequate to a modest beginning, the necessary steps were taken; and in March, 1888, the laboratory was incorporated under the name of the Marine Biological Laboratory, and the following were chosen officers of the corporation: trustees, William G. Farlow, Edward G. Gardiner, Alpheus Hyatt, Susan Minns, Charles S. Minot, William T. Sedgwick, Samuel Wells; treasurer, William Stanford Stevens; clerk, Anna D. Phillips. The trustees immediately organized, and elected Professor Alpheus Hyatt president, and Miss A. D. Phillips, secretary. Professor Farlow soon after resigned, and Professor E. L. Mark was chosen as his successor. Dr. Gardiner, who had kindly consented to enter the board to fill a temporary vacancy, also soon withdrew, and Miss Florence M. Cushing was chosen in his stead.

The trustees, who had already, through a committee, instituted thorough inquiries as to the best place for the laboratory, now set themselves actively to work to locate it, to build and equip it, and to make the necessary plans for the summer's work. Although the time was unduly short, and differences of opinion as to location, policy, etc., difficult to reconcile, had to be harmonized, it was still deemed wise to make a beginning at once, and, if possible, to open the laboratory in 1888. Accordingly, after prolonged and careful consideration, a piece of land (78 × 120 feet) was purchased at Wood's Holl, Mass., close to the shore, and near the buildings of the United States Fish Commission. A plain but very substantial building, 63 × 28 feet, and two stories high, was erected, and was completed within the specified time and at the estimated cost. It was equipped with unusual thoroughness, and was finally opened for work on the day appointed; viz., July 17, 1888.

Dr. C. O. Whitman had already been appointed director of the laboratory, and Mr. B. H. Van Vleck, instructor. Two circulars were issued in June, much later than could have been desired, announcing the opening of the laboratory, and stating the facilities to be provided for investigators and students. One was addressed chiefly to teachers and other workers; the other, to colleges likely to be specially interested. It was so late, however, before it was deemed safe to issue them, that no great response was looked for, or, in fact, occurred.

On the opening day, a small company of students, investigators, and invited guests were present, and the laboratory was formally opened with an address by the director (see *Science*, xii. p. 37). Somewhat earlier than this, Mr. Joseph S. Fay had signified to the trustees his willingness to place at their disposal for the season, a small house on the main street of Wood's Holl, known as "Gardiner Cottage." This gift was most timely, as it enabled the trustees to establish headquarters for the board and lodging of those connected with the laboratory, and contributed directly to its attractiveness and success, as well as to the comfort and welfare of the students.

Owing to the uncertainty connected with the finishing and equipping of the laboratory, it was not possible to issue public circulars until many colleges had disbanded for the summer, and students generally had formed other plans. Nevertheless, during the season there were connected with the laboratory eight students and seven investigators.

The laboratory has now made a beginning. It has secured a