The advantages to the profession of deaf-mute instruction in this country, growing out of the normal fellowships now established, are many and obvious.

First of all, opportunities will be furnished to schools for the deaf to secure the services of young men and women possessed of all their faculties, of the highest education and character, with a knowledge of the natural language of the deaf, and capable of teaching by either the manual or the oral method, as circumstances may require.

These young teachers will have had not only good academic and collegiate training, but also, besides all they will gain at Kendall Green, at least a year's residence in Washington, where valuable opportunities are found for culture in the public libraries, museums, legislative halls, courts, and many other places where contact with men of high attainments is possible.

In our "new departure" the training of "deaf teachers of the deaf" will have its proper share of attention, but not that position of exaggerated importance to which it has been assigned by certain persons who have been self-appointed to speak for the college.

Those of our own students whom it may seem wise to encourage to become teachers will have all needed help in their laudable endeavor; and it is believed that the future will show, as the past has done, many of our graduates doing as good and as useful work in the instruction of their fellow deaf-mutes as can be accomplished by the best hearing and speaking instructors.

In closing this circular, the writer desires to say that the plans for increasing the usefulness of the college herein unfolded are precisely those that have been in his mind for many months, having suffered no modification by recent events.

It did not seem best to give them to the public until the ability to carry them into effect existed.

They are now communicated in the hope that they will be accorded the sympathy, the approval, and the co-operation of instructors of the deaf of all methods, of the deaf themselves, and of those friends of the cause of deaf-mute education who believe in trying to attain the greatest possible good for the greatest possible number.

EDWARD M. GALLAUDET,
President.

NOTES AND NEWS.

A PRESS despatch from Panama states that the United States Fish Commission steamer "Albatross" arrived at that port on Feb. 17, eighteen days from San Francisco *via* Acapulco. She went there to meet Professor Agassiz, who arrived from New York on the "Newport," and under his direction will make a scientific cruise in tropical waters. The area under investigation comprises the Gulf of Panama, the Galapagos, and thence to Acapulco.

— An interesting paper on the destruction of wolves in France appears in the current number of the *Revue Scientifique*, says *Nature* of Feb. 12. The law in virtue of which rewards are given for the killing of wolves was passed on Aug. 3, 1882, and during the last four months of that year 423 were destroyed. In 1883 the number killed was 1,316, the sum paid in rewards being 104,450 francs. The number was 1,035 in 1884, 900 in 1885, 760 in 1886, 701 in 1887, 505 in 1888, 515 in 1889. The departments in which most animals have been slain are Dordogne and Charente. It is believed that very soon no specimens will be left in France except those which occasionally reach it from neighboring countries.

— During the present season, according to *Nature* (Feb. 19), an attempt is to be made to extend our knowledge of the wild tribes inhabiting the borderland of Burmah, between Bhamo and the Chinese frontier on the one hand, and between the Northern Shan States and the Chinese frontier on the other. Lieut. Daly, superintendent of the Northern Shan States, and Lieut. Eliott, assistant commissioner, will spend the greater part of the next six months exploring these regions. The former will have with him an escort of fifty men of the military police, and will be accompanied by Mr. Warry of the Chinese Consular Service, and Lieut. Renny Tailyour of the Survey Department. He starts from Lashio, and will visit the states on the Salween, including the important state of Kyaingyanyi, and will then return along the supposed Chinese border, ascertaining its situation as accepted on the spot, and the nature of the country and the tribes inhabiting it. Mr. Eliott will start from Bhamo, and will be accompanied by Major Hobday of the Survey Department. These officers also will be supplied with an escort of military police. They will probably proceed up the right bank of the Irrawaddy to the bifurcation of the river, and then will cross and examine the country on the Chinese border on the left bank. The country is practically unknown at present, and it is expected that much information of an interesting nature will be collected by the exploring parties. The explorers will, of course, confine their attention to the British side of the border, and, when the time comes for the formal demarcation of the frontier by a joint commission of Chinese and British officials, the information now to be collected will, no doubt, prove useful.

— The *Journal of the Society of Arts* (London) states that the production of wine in France for the year 1890 amounted approximately to 27,416,000 hectolitres, or 603,000,000 gallons, — a proportion of 330 gallons to each hectare of land (a hectare is equivalent to 2.47 acres) under vine-cultivation. This shows an increase of 92,000,000 gallons over 1889, and a falling-off of 50,000,000, when compared with the average production of the last ten years. The increase is observable in 45 departments. *Per contra*, a falling-off was noticed in 31 departments. Viticulturists appear to have employed, as compared with 1889, much larger quantities of low-class sugars to improve the quality of their products, or to increase the yield. The quantity of wine declared for sweetening, which amounted in the first ten months to 19,561,618 kilograms, exceeded, in the period ending Oct. 31, 1890, 32,000,000 kilograms. It was necessary, as usual, to have recourse to large importations of foreign wines. During the first eleven months of last year, the quantity purchased from abroad amounted to 219,000,000 gallons. Spanish wines figured in the list to the extent of 150,000,000 gallons; Italian, 396,000; Portuguese, 4,180,000; Algerian, 38,000,000; and Tunisian, 198,404. In Algeria, wine-cultivation continues to make progress. The area under vines has increased by 3,699 hectares, in 1890; and the yield amounted to 62,568,000 gallons in that year, as compared with 55,264,000 gallons in 1889. As regards cider, the yield in France, in 1890, exceeded that of 1889 by 162,000,000 gallons, and only falls short of the average production of the last ten years by 24,000,000 gallons. In Brittany and Picardy the yield was generally greater than that of an average year; in Normandy it was not so good, and the same remark applies to Mayenne and La Sarthe.

— Among the appropriations made by the Sundry Civil Bill passed at the close of the last session of Congress are the items, aggregating $430,000, for the purchase of the Butler and Richard buildings for the use of the United States Coast and Geodetic Survey of the Treasury Department. The survey has occupied the latter building as an office since its erection in 1872, also one tenement (of the three) of the Butler building; but the increased demand for charts has rendered it necessary to greatly enlarge its printing-plant by the addition of more presses, etc. The triangulation, astronomical, magnetic, gravity, levelling, tidal, and sounding records, and the original maps of the survey, form a very valuable collection, both for reference and for comparative study. These have been steadily accumulating until they have reached such a magnitude that it has been almost impossible to handle the current work of the office. The Weights and Measures Office is also included in this bureau, and, as science advances, the demand for increased accuracy keeps pace with it; and this office is called upon to verify for colleges, manufacturing firms, and many other business institutions, as well as for the government bureaus and the several States, weights and measures of many and diverse descriptions. The question of space has long been a serious drawback and hinderance to the ready prosecution of the work intrusted to it. The bureau has reason to be congratulated upon the acquisition of a home which belongs to the government, and not being longer dependent upon landlords for keeping in repair even the roof over its head. The property ac-

quired by the government by this purchase lies directly south of the Capitol grounds, on the brow of the hill, and is not only valuable now, but is likely to increase rapidly, both on account of its commanding position and its proximity to the Capitol.

— If the statements in a communication to the Académie des Sciences by M. Lippmann are substantiated, another step towards the solution of the problem of photographing objects in their natural colors has been made. M. Lippmann's method is remarkably simple, and makes use of the ordinary re-agents. The sensitive film during exposure, as stated in *Engineering* of Feb. 20, is floated on the surface of mercury. Suppose, now, a ray of blue light, for instance, strikes the sensitive film: it will pass through, and, being reflected from the surface of the mercury behind, will pass out through the film again, interfering on its way with the incident ray. When the two rays are in the same phase, their effects will be additive, and the sensitive matter in the film will be strongly acted on. At a small distance further on, the two rays will neutralize each other, so that the film is there totally unacted on. In this way the thickness of the film is divided up into layers, on which the light has acted, half a wave-length apart: and hence, when fixed and dried, it may be considered as consisting of a number of thin plates, of the half the wave-length of blue light in thickness, and will therefore give rise to a blue color when seen by reflected light, just as the thickness of a soap-bubble gives rise to the colors seen in it. Such is a general sketch of the process as described by M. Lippmann, who adds, however, that the sensitive silver salt, iodide, bromide, or whatever else may be used, must be distributed throughout the film in an almost infinitely divided state, and in a perfectly continuous manner. The film itself must be transparent Owing to the fact that the thickness of an ordinary film is many times the wave-length of a ray of light, the colors obtained are said to be remarkably brilliant. They are, moreover, perfectly fixed; and the prints have been exposed both to a powerful electric arc light and to bright daylight without any signs of fading. It should be added, that, if the prints are viewed by transmitted in place of by reflected light, each color is replaced by its complementary one.

— The following details regarding the work reported by the United States Hydrographic Office will be of interest: The dangerous obstructions to navigation off Barnegat caused by the wrecks of the Spanish steamship "Vizcaya" and the American schooner "Cornelius Hargraves" were removed by the United States steamship "Yantic" (Commander C. H. Rockwell, U.S.N., commanding) on Jan. 29. There were thirteen fathoms of water over the steamer, which lay on her beam ends. Her two iron masts and one of the wooden ones were broken off close to the deck; the fourth (wooden) was afloat, with the heel about ten feet above water, and head held down by the rigging. The "Hargraves" was found to be nearly upright. Of her four large masts, the fore was standing erect, the topmast fidded and secured with massive wire rigging. The second mast was broken off near the deck, and was floating with the lower part above water, and surrounded by a mass of floating wreckage attached by rigging. The third mast was also intact, like the first, and connected with the hull by the rigging. The fourth was not visible. The massive wire rigging was first cut from the mastheads and towed clear of the hull, so as not to interfere with lowering the torpedoes. This duty was performed by a party under the direction of Lieut. Richman, assisted by Lieuts. Mertz and Rose, Ensign Bristol, and Boatswain Sutton. The work was successfully accomplished, after some delay on account of thick fog. Torpedoes were carried out, attached to mast-hoops on the mast of the "Hargraves," sunk to a depth of twelve and a half fathoms, so as to rest on her deck, and exploded. The mast was broken off close to the deck, and came to the surface, with a portion of the deck-house or cabin. In a similar way the other masts of the schooner and steamer were attacked and blown out, and on the morning of the 30th the work was so far completed that careful soundings taken in the vicinity showed nowhere a depth of less than thirteen fathoms, with no obstruction visible. The "Yantic" received orders on Feb. 10 to cruise along the coast from Sandy Hook to Charleston, S.C., and to destroy, as far as practicable, all abandoned wrecks dangerous to navigation.

— Between electricity, which turns night into day, and in other ways fulfils the duty of a city full of policemen, and photography, which disseminates the features of the convict far and wide, the times are not so auspicious for the burglar as they used to be. A citizen of Toledo, O., is accredited by the *Boston Transcript* with an invention by which an instantaneous photograph of an incoming burglar can be made by the flash-light camera that has been previously set and focused toward the door in such a way as to take in the entire figure of the intruder. The essential features of the device are a camera and a flash-light arrangement, in which is provided mechanism to strike a match, that ignites the flash-powder. Simultaneously with the flash a pivoted spring shutter is moved so as to cause instant exposure on the sensitive plate, and the work is done. As the burglar opens the door and steps on a prepared mat, an electrical connection is made, and a lively greeting rings out from the alarm-bells. The burglar may retreat as hastily as he pleases, but the photo flash-light has been too quick for him, and his image is left behind.

— From the official report of the Japanese census, taken on Dec. 1, 1889, it appears that the number of houses in the whole of Japan is 7,840,872, and the total population 40,702,020. The above population divided according to classes gives the following results, as we learn from *Nature* of Feb. 19: nobles and their families, 3,825; old military class, 1,993,637; common people, 38,074,558. These figures, compared with the census taken in 1888, show an increase of 38,046 houses, and of 464,786 persons. Statistics of ages are also given; and from them it appears that at the close of 1889 there were 65 persons who had attained their hundredth year in Japan, 45 their hundred and first year, 13 their hundred and second year, 11 their hundred and third year, 1 his hundred and fourth year, 9 their hundred and fifth year, 3 their hundred and sixth year, 1 his hundred and seventh year, and 1 his hundred and ninth year. The cities and prefectures having populations of over a million numbered 15, that of Tokio being given at 1,138,546; but this includes not only the city, but also a considerable administrative area around.

— D. C. Heath & Co., Boston, have just published a map of Palestine, prepared in outline especially for the use of Sunday-school teachers and classes. The same firm have in press for early publication, in their Modern Language Series, an edition of Eichendorff's "Taugenichts," with notes by Professor Osthaus of Indiana State University; also a volume containing "La Derniere Classe," "La Siege de Berlin," and "La Mule de Pape," — three ingenious stories from the pen of that clever writer, Alphonse Daudet, with notes by Professor Sanderson of Harvard.

— The Milton Bradley Company of Springfield, Mass., have recently published a manual for teachers which is of more than ordinary importance. It is entitled "Color in the School-Room," and, besides a hundred pages devoted to the theory and practice of color-teaching, it contains nearly the same number of pages of colored papers prepared for primary instruction. The selection of colors given includes the six spectrum standards, with intermediate hues between each two standards, and a miscellaneous selection of the tints and shades of the standards and various combinations of them. Each tint, shade, or combination is given a name corresponding with its color-value; as, for instance, "red tint No. 1," "red shade No. 2," "yellow-green shade," etc. This method, though it will not supersede the one in common use, is doubtless the best that can be devised for the purpose intended, as it gives a compact system of nomenclature well adapted to the needs of both teacher and pupil, each name at once suggesting its proper place in the color scheme. In the text there are chapters on the necessity of color-teaching in primary schools, color definitions, color-blindness (which, in some instances, is only color ignorance), the theory of light and color, a standard of color, how to utilize the spectrum as a standard of color, the use of rotating color-disks, the demand for a definite color nomenclature, the proper combination of colors, the Bradley scheme of colored papers, colored paper in the school-room, and water-colors in the school-room.