Günther (1870, 'Catalogue of fishes,' viii. p. 68). It is probable that by one or the other of these authorities you have been misled. 'Muraenopsis' was given to the batrachian by Fitzinger (1843, 'Systema reptilium,' p. 34) as a substitute for Amphiuma Garden, 1821. Subsequent writers have limited the genus Muraenopsis to the species with three toes, retaining in Amphiuma that with two. Examination of a considerable number of specimens shows that about one of every five individuals of tridactyla, from the same locality, has less than the normal number of three toes to each foot. For this reason it seems as if the species is not sufficiently distinct from the two-toed, Amphiuma means, to be entitled to rank in a different genus. In this view the genus Muraenopsis should be suppressed, and the name placed as a synonyme for Amphiuma.

S. Garman.

Mus. comp. zoöl.

[The writer of the review above mentioned must confess to a blunder. Not having a copy of Le Sueur's paper at hand, he trusted to the quotations made by Kaup and Günther. The former writer, as above stated, expressly adopts the genus Muraenopsis from Le Sueur.]

STUDY AT HOME.

In discussing the value of a new plan for making men wiser and better, the thing to do is not to compare it with other plans in successful operation, with which it does not propose to interfere, but simply with the state of things in which it is absent. No one pretends that personal instruction is not of value, or that the urgent stimulus and vivid directness of a living teacher and a *viva voce* explanation can ever be replaced by the slow medium of letters. When an organized effort was made to introduce home study on a large scale, it was on account of the patent fact that there are many young people, and many people no longer young, who are not in a condition to go to school, and to whom, nevertheless, the systematic study of some subject in which they take an interest would be a benefit and a delight. The difference between a sporadic effort to do a little solid reading by one's self, constantly interrupted by flagging interest and by difficulties too hard to overcome, and a regular correspondence with some one who is able and willing to lend encouragement and aid, is very great. If the enthusiasm for this sort of work should become so wide-spread as to keep large numbers of students from giving themselves a regular course of instruction in school and college, it would be time to consider the evils of the plan; but of this there is little danger at present.

Ten years ago some reports of an English organization, called the 'Society for the encouragement of home study,' fell into the hands of a group of missionaries in Boston; and they were immediately inspired with a desire to work out the idea suggested by the title. An exchange of letters with the English secretary was of very little assistance in the development of the American plan. The English society offered no correspondence, but simply sketched out courses of reading, and plans for botanical and art work, to be carried on without assistance for a year, after which the students were expected to go to London for a competitive examination with prizes. In the autumn of 1873, the 'Society to encourage studies at home' was established by a committee of ten persons, six of whom carried on the correspondence with the forty-five students who offered themselves for instruction in the course of the year. Only two points of method were settled at the beginning; namely, that there should be a regular correspondence, and that there should not be competitive examinations. Later the plan was developed of making the students take notes from memory, at the beginning of each day's work, of the reading of the day before, and send to the appointed teacher at the end of each month a few sample pages of their daily notes, and a full abstract, written from memory, of their month's work. There are also frequent examinations; and by this means the students are divided, at the end of the year, into a first, second, and third rank. The plan of giving certificates, based upon the results of an annual examination, was abandoned after two years' trial. The annual fee charged is merely a nominal one, — two dollars at first, and afterwards three, — but it has been sufficient from the beginning to cover all the expenses of paper, postage, the printing of the necessary circulars, the salaries of the assistants to the secretary and the librarian, and for the last two years the rent of the rooms on Park Street, Boston, where the society has its headquarters.

The work of the teachers is, of course, a labor of love. In numbers the society had a very rapid growth for the first four years of its existence, and since then it has remained nearly stationary. In 1880 over eleven hundred students entered, of whom seventy-one per cent persevered throughout the year, and twenty-six per cent were excused for sufficient reasons. The number of teachers is about two hundred. History, science, and art, French, German, and English literature, are the subjects taught; and the proportion of students in each subject remains almost constant year after year. More remarkable still, the subjects divide themselves into three groups of two subjects each, which keep nearly abreast

of each other. An average of the last four years shows, that, out of every hundred students who have persevered, thirty-four have taken English literature and thirty-three history, twelve have taken science and eleven art, five have taken German and four French. History is taught by topics, and there are circulars giving minute directions for critical study in the literatures of the different languages. The Shakspeare paper is particularly suggestive and valuable. Much thorough scientific work is done, if it is of an elementary character. Geology and mineralogy are taught by sending specimens and requiring observation and description, as in the class-room. Excellent work has been done in blowpipe analysis, and several students who live in fossiliferous regions have made discoveries in their own neighborhood. Botany has always been well taught: most of the teachers have been pupils of Gray, Goodale, and Farlow. Biological subjects have not been popular; possibly owing to the lingering survival of a lady-like repugnance to frogs, mussels, and moulds. Physics and chemistry have not been attempted. That the scientific department is thoroughly well conducted is assured by the fact that it is under the charge of the head of the woman's chemical laboratory of the Massachusetts institute of technology.

The society has a lending-library, which began with the purchase of twenty-nine books in 1874, and which has now about a thousand volumes, many of them valuable works in illustration of archeology and art. Out of the eight thousand issues which have been made to the most distant states and territories, through floods and railroad accidents, only twelve volumes have been lost in the mails, and five through the carelessness of students. A small pamphlet enforcing obedience to the rules of health has been prepared by the secretary, and is sent to every one who joins the society. The pupils are widely distributed, both socially and geographically. Massachusetts and New York have always furnished the largest number, but not so many as the remaining Middle States together. The extreme south and the remotest west, as well as the Canadian provinces, are well represented. Many industries and all grades of society, above absolute penury and ignorance, furnish students. There are girls in cities with large allowances, and married women far from any post-office, who do their own household work. A telegraph-operator, a compositor, a matron of a public institution, a railroad paymaster (acting also as treasurer, and going up and down her road in that capacity), a colored teacher at the south, another colored woman well married at the north, have taken advantage of the society's courses. Six deaf-mutes have been among the pupils; and one, after studying several years, has become an associate teacher, and takes charge of four of her companions in misfortune. Mothers study for the sake of teaching their children; and even grandmothers, not to be left too much alone, join the rest of the family group. In age, half the pupils are between twenty and thirty, and one-fourth between thirty and fifty. Many continue their studies for several years. Last year there were more old students than new. One has been eight years in the society, has taken a full course in many subjects, has read a small library of important works, and has taken, after the first two years, the first rank in every thing. "Now and then an enthusiastic student tells us that she hopes to continue with us all her life;" and one writes, "The very thought of leaving makes me homesick." Those who have only known the active life of cities can have no idea how great a boon to a country girl is a correspondence with an intelligent and sympathetic woman. The students' letters are full of appreciation and gratitude. One says, "I only regret that I did not know of the society at the beginning of its existence;" and another speaks of having derived "pleasure and incalculable benefit from the systematic course of study prescribed." After buying a science text-book, a student writes, "It has cost me my summer hat, but I do not regret it in the least;" and another, "I pin my lesson copied the night before, to the kitchen wall, and the drudgery of dish-washing is removed." With such eager material to work upon, it will be strange if the society does not find some mute, inglorious Herschel, or some village Somerville, upon whom it will act as an inspiration to great things. If Du Bois Reymond was able to become a great physiologist at a time when rubber tubing was not an article of commerce, a girl who has learned to use the blowpipe by teaching at a distance must blame herself, and not her circumstances, if she does not do good work as a mineralogist.

A society for home study for young men has had an existence for three years, and has come to an end. Longfellow, Howells, and Holmes, John Hay, Justin Winsor, and Charles Dudley Warner, are among the names on its committee, and the reports for the first two years were very enthusiastic. They state that the students are twice as many as in the young women's

society for the corresponding years, that the average time given to study is ten hours a week instead of eight, that there has been no difficulty in finding a large number of cultivated gentlemen who were willing to give their time and attention to the work, and that the wonderful success of the earlier society may be taken as an indication of what may be done for young men by the same means. The secretary says, "This year's work has convinced us that we have every promise of the society's becoming a successful and useful institution, and that it is meeting a great need in a practical way." A year later it is decided to give up the organization; and no more specific reason for this course is given than that the committee is satisfied, on the whole, that the good done is not enough to make worth while the labor required of officers and correspondents.

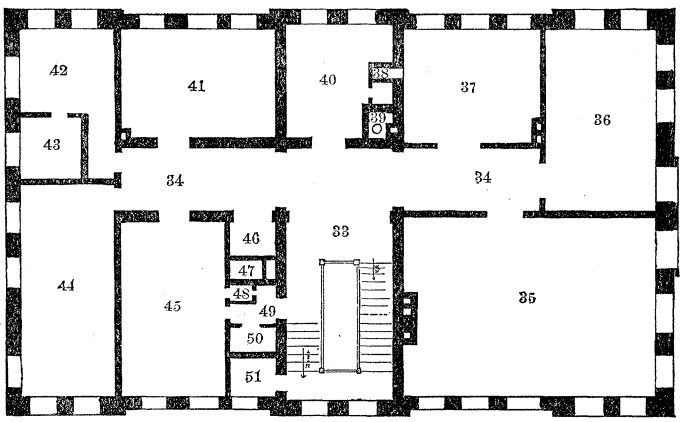

FIG. 2.—33, 34, hall and corridor; 35, museum; 36, advanced morphology; 37, preparation-room for museum: 40, assistant's room; 41, library; 42, 43, photography; 44, advanced botany; 45, lecture-room; 46, elevator; 47, 39, ventilating-shafts; 51, lavatory.

THE BIOLOGICAL LABORATORY OF THE JOHNS HOPKINS UNIVERSITY.

THE recently opened biological laboratory of the Johns Hopkins university is eighty-four by fifty-two feet in external measurement, and consists of three stories and a basement. It is built of Baltimore pressed brick; with steps, entry, window-sills, and band-courses of Cheat-river bluestone. While free from any attempt at mere architectural display, the building is handsome, as will be seen on examination of fig. 5, which represents its north and west elevations. A fact that at once attracts attention is the number and large size of the windows: as the laboratory is free on all sides, it is therefore very well lighted.

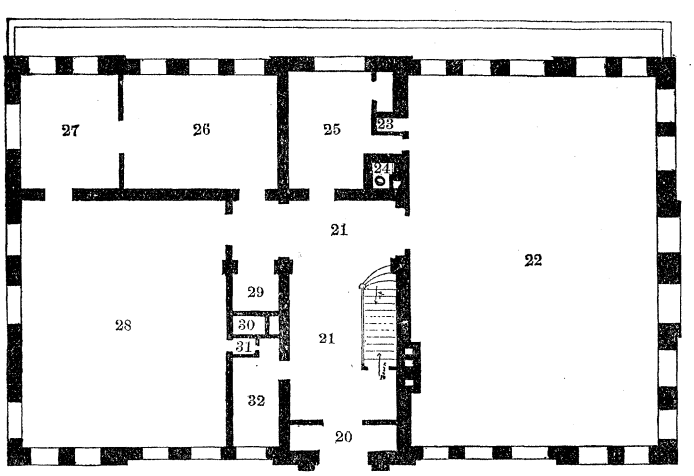

FIG. 1.—20, vestibule; 21, main hall; 22, work-room for practical instruction of less advanced students; 24, 30, ventilating-shafts; 25, storeroom of materials and reagents for general practical class-work; 26, chief assistant's room; 27, storeroom for diagrams and lecture-apparatus; 28, lecture-room; 29, elevator; 32, cloak-room.

On ascending the front steps, and passing through the door, the visitor enters the main hall, from which a wide staircase ascends to the third story, and on which most of the rooms of the first floor open. This floor is given up to the regular class-instruction of students not engaged in special work. It has on it (see plan, fig. 1) a lecture-room with seats for sixty; a storeroom connected with this, for the keeping of diagrams and lecture-apparatus; an administration-room, the headquarters of the chief assistant; a preparation-room containing a supply of the reagents, specimens for dissection, and histological material required for the daily practical class-work; and the large general laboratory, thirty-two by forty-eight feet.

The latter (fig. 6) has windows on three sides. Around these sides runs a work-table, supported, independently of the floor, on brackets attached to the walls, and affording ample space for thirty students. If necessary,