— Volume xxi. of the 'Encylopaedia Britannica,' which has just been issued, contains several distinctively philosophical articles. They are 'Rousseau,' by George Saintsbury; 'Scepticism,' by Andrew Seth; 'Schelling,' by Professor Adamson; 'Schleiermacher,' by Rev. J. F. Smith; 'Scholasticism,' by Andrew Seth; and 'Schopenhauer,' by Prof. William Wallace.

— Every once in a while some new hint is dropped concerning the forthcoming biography of Darwin by his son. The last is that Professor Huxley will contribute a chapter, and that the book will bear strong testimony to the influence exercised by Sir Charles Lyell over Darwin.

— Professor Tyndall's stay in Switzerland has greatly benefited his health, and he now intends to deliver the Christmas lectures at the Royal institution in London himself.

— Dr. Köhler has been succeeded as director of the German school at Athens by Dr. Peters, late professor of archeology at the University of Prague.

— The programme of the Aristotelian society of London for the winter is unusually interesting. Mr. Shadworth Hodgson opened the year's work with an address on the re-organization of philosophy. Other papers will treat of Malebranche, Leibnitz, Lotze, T. H. Green, Hegel's 'Philosophie des rechts,' and the Augustinian philosophy. Dr. Cattell of Leipzig will give an account of some recent psycho-physical researches. The ancient distinction of logic, physic, and ethic, the relation of language to thought, the distinction of fact and right, and the theory of motion, will be treated by other members of the society; and the session will be closed by Dr. Bain, 'On the ultimate questions of philosophy.'

— A new encyclopaedia of education is being prepared in England under the editorship of Mr. A. Sonnenschein and Rev. E. D. Price.

— Capt. R. L. Pythian, U.S.N., was ordered to duty on Nov. 14, as superintendent of the naval observatory at Washington. Commander A. D. Brown, who has been acting as superintendent, will continue on duty at the observatory as assistant superintendent.

— Herbert H. Smith, who has been collecting natural history specimens in South America for several years, left Rio de Janeiro for this country over a month ago upon a sailing-vessel. He brings with him enormous collections.

— The number of those who are now invalids as the result of the war is said to be 265,854, the total number of soldiers having been about one million and a quarter.

LETTERS TO THE EDITOR.

The swindler at work again.

I ENCLOSE for the benefit of others a letter from a swindler in the west, addressed to me, over the very well forged signature of Charles D. Walcott, U. S. N. M. (national museum at Washington), dated simply 'Cook co. Normal, Nov. 7, 1886.' Chicago is in Cook county, Ill. It requested the immediate despatch of a set of geological reports to Prof. George Wells Litz, of the Cook county (Ill.) normal school, and his colleague, Professor Parker.

Cook co. Normal, Nov. 7, 1886.

Prof. JOHN P. LESLEY.

Dear Sir,— Will you kindly send to Prof. George Wells Litz, of the Cook county (Ill.) normal school, a complete set of the reports of the second geological survey of Pennsylvania. I am indebted to him, and to his colleague Professor Parker, for a most delightful Sunday, and wish to place him and his friend in the way of getting literature at present inaccessible to them.

An early compliance with this request will be considered a great favor, and one to be soon repaid by your friend, CHARLES D. WALCOTT, U.S.N.M.

Mr. Walcott informs me by letter, after seeing the above letter, that he had tried to trace the rascal, but thus far without success. The fellow has obtained, under various false pretences, quantities of specimens, books, and sometimes money, from eastern geologists. J. P. LESLEY.

Effect of electric light on plant-growth.

"The light from an electric-lamp tower in Davenport, Io., falls full upon a flower-garden about one hundred feet away; and during the past summer the owner has observed that lilies which have usually bloomed only in the day have opened in the night, and that morning-glories have unclosed their blossoms as soon as the electric light fell on them."

The above item, which originally appeared in the *Democrat* of this city, and has gone the rounds of the press, has a substantial basis of fact. The 'Jenney' system of electric lighting was introduced into this city early this past spring, and across the street from the residence of Mr. Henry W. Kerker is situated one of its towers. This tower is 125 feet high, and contains five arc lights, each of 2,000 candle-power. During the past summer, Mr. Kerker's attention was attracted to the singular effect these lights produced upon some day-lilies blooming in his garden. These flowers closed as night came on, but, as soon as the electric lamps were started up, they re-opened, and while the lights were in operation continued in full bloom. As the street is about 80 feet wide, the lights were distant some 200 feet from the flowers. Other similar observations here are reported, but, as they are less accurately verified, I pass them for the present without special mention.

CHAS. E. PUTNAM.

Davenport, Io., Nov. 19.

Milk-sickness.

This disease seems to have received but little attention from the medical fraternity, probably on account of the supposition that its ravages are circumscribed to the area within the confines of its origination; yet it is presumed that such is not the

fact, and that hundreds die annually, in places far distant from the localities of its origination, by the use of meat and butter shipped from such places, as the dairy products of localities infected with this scourge have to seek a market from home; and as a natural sequence they find their way into the large cities, thus placing the fatal poison into the mouths of many.

Physicians unacquainted with it are apt, after diagnosing it, to give it fever treatment; and the resultant sequence is, that the patient dies. So the physician soon finds that he has a disease that in its special pathology, from the closest observation, he has given a febrile nosology; yet the febrile therapeutics only hasten dissolution. From its febrile semeiology, it is likely to mislead those not familiar with it in its diagnosis.

The effect of milk-sickness upon 'dry cattle,' males and sucklings, is death; but the milk-giving cow excretes the poison in the lacteal fluid, and receives but little, if any, perceptible injury from it. The buttermilk is said to be as harmless as that from well cattle, while the sweet milk and butter hold the poison; yet, from the statement of many, it does not seem to be held in solution after the milk is drawn from the cow, but seems to have a magnetic attraction for itself, thus segregating all its minute particles from the milk or butter, conglomerating and conglutinating into one imperceptible particle until swallowed by some one, when the virus at once becomes active. It is stated, upon seemingly good authority, that of a milking, if drank while sweet, although a dozen persons may partake of it, yet only one will contract the disease; and the same statement is made as regards the use of the butter made at one churning.

This disease occurs among cattle that browse on the north side of the Blue Ridge and foothills, and in dark rich coves where there is but very little sunshine. It is positively stated, that, if the cattle in the localities where the disease prevails are not allowed to graze until after the dew evaporates, the disease will not appear, provided they are driven from the place before the dew begins to accumulate in the evening; but, when a cow eats any of the herbage with the dew on it, milk-sickness is the sequence. This is the unanimous statement of native residents in localities where it originates.

The following experiments have been made with it in Macon county, N.C.: One man placed a couple of bundles of corn-fodder out in the evening, and took them the next morning before sunrise, with the dew on them, and gave them to a yearling. It died in about three days with the disease. Another person placed a piece of good, fresh beef on a rock near a brook after sunset, and the next morning early he gave it to a healthy dog, which ate it, and died in four days of the disease. This evidence would tend to show that it was not induced in cattle from poisonous plants, but from a poison held in solution in the dew, and that it evaporates with the dew.

One Dr. Cauler, last year, in the Blue Ridge *Enterprise*, published at Webster, N.C., in writing of the etiology of the disease, stated that it was caused by arsenical poisoning. He said that there were cupreous deposits in the localities where it occurred, and that the "solar heat freed the arsenic from the copper, which the dew held in solution on the herbage;" yet it occurs in localities where no copper has been found. And then, a gentleman who has manufactured arsenic says that it would be unnatural for copper to give off arsenic so easily and so freely.

Another opinion is, that it is caused by the cattle's eating a poisonous fungus, as it has been found in the stomach of a cow that died with the disease. Webster, in defining milk-sickness, concludes by saying, 'Its cause is unknown.'

There are localities in Macon county, N.C., that offer excellent opportunities for studying and investigating fully that disease; and in the same county, at Smith's Bridge post-office, lives Dr. Brabson, who, it is claimed, is the only physician in the county that fully understands the treatment of the disease. This is a matter worthy of investigation, and is really of more interest to the public than they are aware, as reasons given in the beginning of this letter show.

J. W. WALKER.

Pine Mountain, Ga., Nov. 6.

[The disease to which our correspondent alludes in the foregoing letter was known in North Carolina during the past century, but was first brought to the attention of the medical profession about the year 1812. It subsequently appeared in Tennessee, Kentucky, Ohio, Indiana, Illinois, and other portions of the country. A very interesting account of this disease, and references to numerous writers, will be found in Wood's 'Practice of medicine.' As to the causation of the disease, very many theories have been held, although it seems to be generally conceded that the disease disappears as soon as the region where it exists becomes cleared up and cultivated. Some authorities have attributed to it, both in cattle and in man, a malarial origin; others have thought it to be caused by the poison vine, Rhus radicans. On this subject Dr. Wood many years ago said, "It appears to me that there is but one mode of approaching an explanation of these various phenomena. Providence may have planted in the rotten soil of our new lands certain germs, etc. Of the nature of these germs we are quite ignorant. They may be microscopic animalcules or mushrooms." Dr. Phillips observed cases on the upper water of Scioto, Ohio, and found in the blood "a great number of living, moving, spiral bacteria, similar, in their general appearance, to those spiral bacteria described by Professor Lebert as abounding in the blood of relapsing-fever patients. I also found in the urine of that patient those same spiral bacteria, and, coexisting with them, the sphero-bacteria, in segments of two to six or eight." Dr. Schmitt, who observed cases in the same region, found no bacteria in their blood. Professor Law, in the National board of health bulletin, vol. ii., No. 4, p. 456, says that "in its source, in unimproved marshy localities, it closely resembles the malignant anthrax, also in its communicability to all animals; but it differs essentially in that it fails to show anthrax lesions, in place of which it expends its energy on the nerve-centres, producing great hebetude and loss of muscular power. The germ is probably derived from drinking-water, or the surfaces of vegetables, as certain wells are found to infect with certainty, and the disease has been repeatedly produced by feeding upon particular plants (Rhus toxicodendron, etc.). That these plants, in themselves, are not the pathogenic elements, is shown by their innocuous properties when grown in places out of the region of milk-sickness infection. The great danger of this affection consists in the conveyance of the germ with unimpaired potency

through the flesh and milk, and through butter and cheese. The disorder proves fatal in man as in animals." As our correspondent says, this subject is one of great interest as a disease affecting both man and animals, and we should be glad to receive any information which will indicate its present home and prevalence. — ED.]

The teaching of natural history.

I have been much interested in reading the rather unjust review of French's 'Butterflies' in a recent issue of *Science*, 'A teacher's' letter in a succeeding number, and Mr. S. H. Scudder's reply in the last. Unlike Mr. Scudder, I have been a teacher, although I have never had but one pupil, — myself; and, as I have him yet, I want to ask Mr. Scudder what I shall do with him. What education I possess was, with one exception, directed by the faculties of certain institutions, where nothing was known but Latin, Greek, and mathematics. The exception was in a high school where Gray's 'How plants grow' was used as a reading-book. The class never had a plant, a flower, or a leaf. The readers simply stood up and read the first one hundred pages of that book. The pupils asked no questions, they could not for evident reasons; neither did the teacher; and the latter volunteered no remarks; yet that botanical instructor was, it seems to me, adopting the plan advocated by Mr. Scudder, for he was not using Gray's book in 'finding out the mere names of objects:' he was allowing the book to discuss "the nature, meaning, and causes of the relative affinities of organized beings," so far as that little book could do. I did not learn the name of a single plant. I am more than sure that I learned none of the relative affinities of which Mr. Scudder speaks. How could I? Without the specimen, what meaning is conveyed to the beginner by, "A flower, with all its parts complete, consists of calyx, corolla, stamens, and pistils; one from the morning-glory will serve as an example"? The morning-glory, indeed! Why, this will never do. Morning-glory is the *name* of a plant, and Mr. Scudder says, 'The name may be called a necessary evil; and unless, with it, is more emphatically acquired a knowledge of the structural and biological relations of the object which it bears to other objects, it is worse than useless knowledge." In my case the name was not even a necessary evil, for it did not exist. I was supposed to be acquiring knowledge of structural relations in an elementary way, and the book was supposed to be teaching the class the affinities and relations of things botanical; but, so far as I am concerned, I am free to admit that the result was an abominable failure. How could I have obtained the flower called for, since I did not know the plant producing that flower?

When Mr. Scudder goes to a flower-show and sees a strange plant, does he engage the florist in a discussion about biological relations or structural affinities? No, I think Mr. Scudder says, 'What *is* that?' When Mr. Scudder finds a fossil insect, he doubtless studies its biological relations, since he is an advanced and accomplished naturalist; but, if he were an ignorant beginner, he would run to his teacher with the question, 'What *is* that?' And if he had himself for a pupil, who had not learned the structural affinities of 'the find,' he would ransack the books for the name; and, having found it, he would en have not only the key that opens the door to further knowledge of the work of other investigators, but he would have a peg as well, on which to hang his information and the result of his own investigations. If he would not do this, what would he do? In all kindness, with the heartiest feelings of esteem for Mr. Scudder, and with a burning desire to increase my own knowledge, let me beg Mr. Scudder to tell me what I shall do with my single ignorant pupil. How can I teach myself the biological relations and structural affinities of the butterflies, since I am not supposed to know the name of even the commonest butterfly? Without the name, what foundation have I on which to erect my future learning? I got the structural affinities without the names in my earliest botanical instruction. The result I do not approve. But if Mr. Scudder will tell me how to teach myself according to his plan, he will also be telling 'A teacher' how to teach his pupils, although I am *not* the author of the letter in the last *Science*. If I am not to begin by finding out the name, where shall I begin? If I dissect the butterfly, study its histology, and write a monograph on its ontogeny, and know not its name, what shall I call the book, and what will its readers say? Shall it be 'The structure and life history of *a* butterfly?' Of what butterfly? To my uninstructed eyes there seems to be more than one butterfly. If there are more than one, do they all have the same structure and life-history? Were I allowed to pursue what seems to be a natural and proper course, I would take French's excellent book, and having found the name of the specimen by French's excellent key, and having learned what French has to say in his text, I would, as I do, await the issue of Mr. Scudder's expected work on the butterflies with pleasant thoughts of anticipations about to be agreeably realized. But since this would be the wrong method, will Mr. Scudder kindly tell me what would be the right one?

A. READER.

The classics versus science.

An editorial paragraph in *Science* for Nov. 19 suggests some curious reflections. If, as you say, Mr. Lowell's oration at Harvard "is itself a justification of a classical and literary education, and a living argument for a culture loftier and deeper than that which strictly utilitarian theories would provide," does it not logically follow that science deserves no place in the curriculum, and that your own journal has little excuse for being?

Science has been added to the course of studies largely because of the demands of the utilitarians; and only in recent days, and faintly, has its disciplinary value been urged.

Certainly, when one sees what is oftentimes taught as science, and is obliged to read the wretched English in which some scientific books are written, — which books, by the way, are highly lauded in scientific journals, — and, moreover, when one witnesses the temper of scientific men in treating those who differ with them concerning the latest ephemeral classification or other equally important point, one is inclined to side with the classicists in the belief that the study of science has little value either for purposes of discipline or culture; that it scarcely forms 'open-minded' men in the poet's sense; and that perhaps it would be better for all concerned that they should be 'digging Sanscrit roots.'

F. W. STAEBNER.

Westfield, Mass., Nov. 21.