SCIENCE.

FRIDAY, NOVEMBER 26, 1886.

COMMENT AND CRITICISM.

WITH THIS ISSUE, *Science* offers to its readers an educational supplement, and a portion of the body of the paper is also given over to matters of educational interest. Hereafter this will be the case with every fourth number of the paper. These educational numbers will also be reprinted separately, and bound as an educational journal complete in itself, entitled *Science and education.* This will be furnished separately to teachers and others who may desire it and yet not feel able to subscribe for *Science* as a whole. The object in taking this step is to emphasize and elucidate the truth that education is a science, and teaching a profession. While adhering to no particular school of pedagogics, we believe that the present movement in favor of the scientific treatment of education is eminently proper, and we mean to aid it by all means in our power. As education, like civilization, is international, we shall endeavor to present to our readers from time to time an account of what is doing in Europe, and to inform them concerning current pedagogical literature, both American and foreign. We shall include articles on the history of education, the art of instruction, the science of education, classical study, industrial education, science-teaching, normal-school methods, school discipline, common-school questions, and cognate subjects. We hope to make our book-reviews especially useful to teachers and general readers, and to tell them what new books we consider useful to educational science, and what harmful. We propose to make this educational journal essential to teachers, and to educators generally, and to lend an efficient hand in aiding true educational progress.

THE VICE-CHANCELLORSHIP of the University of Oxford is the most influential office of the university, and the election to the position a great honor. Inasmuch as the vice-chancellor is the virtual executive officer, and enjoys many special prerogatives and privileges, his is a position of great influence and responsibility. Nominally the vice-chancellor is elected for a year; but if he is willing, and his health permits, he is re-elected annually for three years: so the full term is practically four years. A new vice-cancellarean term has just begun at Oxford, Prof. Benjamin Jowett, master of Balliol college, having completed his four-years' tenure. His successor is Dr. Bellamy, president of St. John's college, a man of conservative tendencies, and of whom nothing but good is spoken. Professor Jowett has been called the most learned man in England, and his vice-chancellorship, quite in keeping with his reputation, has been notable. He may be called a radical, so far as that term will apply in the field of scholarship, and he has been instrumental in breaking down many of the old traditions that have trammelled his university and limited its usefulness. Under his active direction, the Indian institute was opened, the new physiological laboratory built and endowed, — a tremendous blow to the conservative element, — a new theatre built for academic uses, an actor invited to lecture before the university, the examination schools used as ball-rooms, and a non-conformist college actually founded. Corresponding to these external evidences, Professor Jowett has infused into the university a spirit of catholicity and tolerance utterly new to it. It is safe to say that among his greatest works will always be reckoned his liberalizing of the ancient university. His services to the cause of education are of inestimable value, and we trust he may long be spared to enjoy the honors he has so richly deserved.

ARTICULATENESS IN ANY SCHEME of education is essential to its perfection. In state-controlled education this articulateness is obtained by law, but in countries like our own it is left to circumstances and the discretion of the authorities of the separate grades of educational institutions. All honorable endeavor should be made, therefore, to bring these authorities frequently together, that they may learn each other's wants and necessities, and work together for their common end. An attempt to do this is being made to-day in Philadelphia, where a convention of teachers interested in preparing boys for college is being held. Papers are to be read, — those announced in the

programme are by Professor James of the University of Pennsylvania, and Professor West of Princeton, — and followed by general discussion. The meeting should be a valuable one, and we trust it will be. It would be especially notable should it prove to be the first step in bringing our colleges and preparatory schools into frequent and close conference in some official manner.

A CIRCULAR FROM PROFESSOR LESLEY, state geologist of Pennsylvania, announces that Mr. C. A. Ashburner, who has in recent years acted as geologist in charge, has resigned this position for the purpose of associating himself with a company in Pittsburgh, that, among other projects, proposes to undertake a systematic search for and development of natural-gas fields for economic uses. Mr. Ashburner's services on the state survey, especially in the anthracite region, are well known and highly appreciated by American geologists, and it is fortunate that part of his time may still be given to the completion of work at present in hand. It is gratifying also to see that Mr. Ashburner's geological studies have led him to so practical and valuable a knowledge of the occurrence of natural gas, that his guidance in the search for this new fuel is now needed by commercial men who measure their good opinion in high salaries, with which the pay for the more purely scientific work of a geological survey, as measured by legislative opinion, cannot compete.

PLEURO-PNEUMONIA, which has lately given the authorities so much trouble and anxiety in Illinois, is steadily advancing into other states. It is now attacking herds of cattle in the counties of Harvard, Clinton, Newton, Jasper, and Benton, in the state of Indiana, and it is reported that infected animals have been shipped to other counties. The U. S. authorities have, in our judgment, been very remiss in their duties in respect to contagious pleuro-pneumonia. The increased prevalence of this disease was brought to their attention some years ago, and they were urged by sanitarians and veterinarians alike to take the steps necessary to its control and extinction; but the appeals were in vain. It will be found, we predict, before many months have passed, that the government must take the most radical steps if it expects to cope with this disease, which has already cost the country millions of dollars, and will doubtless cost it as many more before its progress is stayed.

MR. ALFRED RUSSELL WALLACE, D.C.L., who read a paper before the National academy of sciences at Boston recently, and who is to deliver Lowell institute lectures this year, should need no introduction to American students and scientists. Mr. Wallace shares with Charles Darwin the honor of having discovered the laws of the modification of species and of natural selection. Mr. Darwin, in the introduction to his 'Origin of species,' refers to Mr. Wallace's work in the same fields as his own. Mr. Wallace, however, is more conservative than the more ardent Darwinians in his limitation of the scope of the laws of natural selection. Mr. Wallace's principal writings, aside from his numerous special contributions to the proceedings of learned societies, are, 'Travels on the Amazon and Rio Negro' (1853), 'Palm trees of the Amazon' (1853), 'The Malay Archipelago' (1869), 'Contributions to the theory of natural selection' (1870), 'Miracles and modern Spiritualists' (1875), 'Geographical distribution of animals' (1876), 'Tropical nature' (1878), 'Island life' (1880), 'Land nationalization' (1882), and a work edited by him on Australasia, to which he was also a large contributor. In 1885 Mr. Wallace published an essay on 'Bad times,' ascribing them to an excessive war expenditure, the increase of speculation and of millionnaires, and to the depopulation of the rural districts. Mr. Wallace's political and social opinions are not so authoritative as those on subjects in the domain of natural science. The socialists, anti-vaccinationists, and Spiritualists all claim Mr. Wallace as one of themselves, though with how much reason we do not know.

THE GREAT ATTENTION that the phenomena of hypnotism have attracted in France, owing doubtless to the prevalence of that nervously volatile temperament necessary for a good hypnotic subject, has culminated in the establishment of a monthly review, already referred to in *Science* (Sept. 3, p. 207), devoted exclusively to this subject (*Revue de l'hypnotisme expérimental et thérapeutique*). The editor is Dr. Edgar Bérillon, who has gathered together a goodly array of collaborators. 'Hypnotism is the order of the day:' thus says the opening editorial. Societies having for their object the investigation of this side of psychic life are flourishing; many physicians (in France) are employing it as a therapeutic agent, especially in nervous diseases; the question of responsibility in this condition must be discussed

by medico-legal experts; the physiology and psychology of this attention-cramp, or whatever we call it, must be worked out. Hence a review. Judging from the contents of the first four numbers of the *Revue*, one must pronounce it a very convenient publication. It will enable one to follow the development of this interesting movement with least waste of time. It differs from the proceedings of our psychic research societies in that its aim is essentially practical, and the interest it represents largely medical. True, we are introduced to such novelties as hypnotizing through the telephone, and the action of medicaments at a distance; but these are brought forward to show the extent of the change in sensibility in hypnotics, not as evidences of 'supernormal' gifts. There is a large scientific field for this sort of study; and physicians, particularly specialists in nervous diseases, are the ones best qualified to take it up. On the whole, the movement represented by the staff of this review may be regarded as a very promising one.

THE REPORT of the British commissioners of customs for the last fiscal year contains some interesting statistics and observations. We learn, that, inclusive of warehouse charges and the revenue of the Isle of Man, the customs revenue for the year amounted to £19,916,995, a decrease of over £800,000 from the receipts of the preceding year. Some of this difference is attributable to the fact that the receipts for the last quarter of the preceding year were unusually increased by the general expectation that the duty on some articles, notably tea, was to be increased; and consequently unusually large imports were made in order to gain the advantage of an increase in the customs tax. The consumption of coffee, as measured by the customs returns, continues to decrease, the commissioners saying that not even the low duty of one and a half pence a pound is able to counteract the inconvenience which is inevitable in its preparation for consumption in comparison with tea. If the receipts from coffee, based on the returns of ten years ago, had kept pace with the growth of population, they should have yielded this year a revenue of £227,644; while as a matter of fact they yield only £207,977. The decrease in the receipts from rum and brandy together amounts to £195,610, which seems a proof of a real and large decrease in the consumption of them. Tobacco shows an increase of £12,351; but, as much of the quantity imported is still in storage, this sum does not fairly measure an increased consumption. As regards smuggling, the commissioners observe that it is in tobacco that nearly all the frauds on the revenue by importation are attempted, and they regret to have to report that their experience leads them to conclude that an organized system of smuggling is in operation at all the large ports trading regularly with countries where tobacco is to be bought at a slight increase on its cost of production, and that to effectually check this illegal practice great severity of the revenue laws and the utmost vigilance of the officers are necessary.

ACCORDING TO THE ANNUAL REPORT of the commissioner of internal revenue, the receipts of the U.S. treasury from that source for the last fiscal year were $116,902,869, an increase of about $4,500,000 over the receipts for 1885. The cost of collection was 3.6 per cent of the amount collected; last year it was 3.9 per cent. Violations of the internal revenue law seem almost wholly confined to the mountainous districts of Georgia, North Carolina, Tennessee, Kentucky, and Virginia, where considerable illicit distilling is carried on. Property to the value of $286,902 was seized during the year for violations of the law, 6,242 distilleries were registered, and 6,034 operated, during the year. In reference to the operation of the new oleomargarine tax law, the commissioner says that "it is impossible at this time to estimate the amount of internal revenue which will be derived from oleomargarine. If, however, the operation of the law should prove unsatisfactory in its present form, which is construed to levy a tax only upon the article manufactured and sold or removed for consumption or sale as supposititious butter, the law can be so amended as, while imposing a tax upon oleomargarine-oil, neutral, and such like substances, without which the supposititious butter cannot be extensively manufactured, to provide also for the use of such substances by subsequent compounders without the payment of a second tax, as rectifiers are allowed to compound distilled spirits on which the tax is paid without paying an additional gallon-tax, simply by delivering up the original tax-paid stamps, and receiving in exchange other stamps representing the same quantity; also for refunding the tax on so much as is used for lubricating purposes or otherwise in the arts and sciences. In my opinion, the advantage in securing the tax from the manufacturer who derives his material from the slaughtered

animals cannot be overestimated. These manufacturers are comparatively few in number. By requiring them to stamp and brand all their productions, and to keep such books as will indicate the destination of their products, such products can be followed to the dealers, and through the dealers to the customers. At the same time, by the use of a system of exchanging stamps similar to that now in operation as to distilled spirits, the article may be readily identified by the consumer without necessitating the imposition of a second tax."

The skill displayed by Mr. Edward Burgess in the application of scientific principles to the construction of yachts has again received a mark of appreciation from the Naturalists' club of Boston, to which he belongs, and which last year gave him a dinner to commemorate the victory of the Puritan. Last Friday, at a dinner given in his honor, at which some fifty members were present, the club presented him with a pair of silver salt-cellars modelled after 'nature's most graceful designs,'— one of them a miniature Nautilus inscribed 'Puritan;' the other an Argonaut-shell of similar size, marked 'Mayflower;' and both excellent copies of the originals; while the spoons have handles of twisted rope, and on the back of the bowls, delicately raised pictures of the famous yachts. No pains were spared in the workmanship.

WOMEN ON THE NEW YORK SCHOOL BOARD.

As was foreshadowed in a recent number of *Science* (viii. No. 197), the movement in favor of the appointment of women to the board of education in New York City, has been successful. On Wednesday of last week, Mayor Grace filed his appointments, and the list was found to be made up of three new men, two of the old commissioners who were re-appointed, and two women. In taking this step, the mayor has put himself in line with advanced thought on this subject, and has, we feel certain, contributed in no small degree to the increased efficiency of the public-school system. For years women have sat on the school boards of London, Edinburgh, and other foreign cities, and many of our own towns and school districts choose one or more women among their managers. When we consider the character of education in general, the peculiar conditions of public instruction, the fact that a large proportion — not infrequently a majority — of public-school students are girls, and that fully nine-tenths of the public-school teachers are women, the reasons for the presence of women on the boards of education are apparent. Then, too, it is highly probable that the presence of women commissioners will raise the deliberations of a board of education to a higher plane, and lift them out of the political entanglements in which they are too often caught.

All these considerations apply with peculiar force to New York City; and, moreover, these commissioners of education enjoy a position of great influence and honor. The board of education has general supervision of the whole school system. It appoints the principals of schools, but not the teachers; these are appointed by the trustees of the various wards, who, in turn, are chosen by the board of education for a term of four years. All the money and supplies for the schools are voted by the board, and all repairs and new buildings and the purchase of sites are directed by it.

In making these particular appointments, Mayor Grace has avoided what would have been a great mistake. He has not appointed any 'cranks' or any professional agitators for 'woman's rights.' At such a time plenty of these persons come forward as candidates, but their appointment would have been turning the whole movement into ridicule. Both of the women chosen by the mayor are of the highest standing, morally, intellectually, and socially. They are neither agitators nor theorists, but women of pure Christian character, great ability, and, what is quite as essential to a commissioner of education, some common sense. They are both deeply interested in education, and close students of its theory and practice. Distinguished for years in connection with the prominent charities and philanthropic institutions of a great city, we have every reason to predict that the character and talents which they bring to their new and somewhat trying office will elevate and improve its public-school system.

THE CHARLESTON EARTHQUAKE.

We are indebted to the Philosophical society of Washington for permission to use the accompanying map in advance of its regular publication in their Proceedings. It was presented by Mr. Hayden to illustrate his paper on the Charleston earthquake, read before the society on Oct. 23, and represents graphically the data which had reached the U. S. geological survey concerning the distribution of the earth-wave from the great shock of Aug. 31, as to area, intensity (isoseismals), and time (coseismals). It was compiled mostly from information sent in by private correspondents, and it will be interesting to compare it with