SCIENCE.

FRIDAY, JUNE 10, 1887.

COMMENT AND CRITICISM.

IT IS NOT OFTEN that the average school board has the temerity to attack or seriously modify the traditional course of study. A capable superintendent or principal who is alive to newly developed needs and conditions will occasionally undertake some reform, but, save in a few of the cities of the country, even that is unusual. It is probably for this reason, as well as because of the importance of the particular case in point, that so much attention has been attracted to the action of the Boston school committee concerning arithmetic. Something over a year ago the following resolution was passed by the committee: "Whereas the study of so-called arithmetic in the grammar schools of this city covers much ground which does not come within the proper scope of arithmetic, which is the art of numbers, no small part of the time and strength of the pupils being given to merely technical application of arithmetical rules; and whereas the exercises prescribed are often difficult beyond the best conditions of mental discipline, the problems set for the pupils being really exercises, not in arithmetic, but in logic, such as pertain to a period of life several years later: resolved that the committee on examinations are requested to inquire and report whether it is not practicable to reduce and simplify the studies and exercises now prescribed under the head of arithmetic."

Afterwards Gen. Francis A. Walker drew up a series of eleven questions, and submitted them to the school principals for the purpose of obtaining specific information, and was fairly successful in the attempt. Twenty-five principals said, that, were the matter left wholly to their own judgment, they would considerably diminish the amount of arithmetic taught; twenty would not diminish it; and five would diminish it slightly. As to the character of the changes desired, there was great diversity of opinion. Thirteen would omit discount, thirteen mensuration, thirteen the metric system, — a most absurd suggestion, in view of the increasing tendency to use this system in scientific books. Nine would do away with compound proportion, eight with exchange, seven with cube root, two with some of partial payments. Thirty-two thought the practice of memorizing the multiplication-table at first injudicious, fourteen considered it advisable, while eight gave a qualified answer. The gist of the conclusions reached is, that the study of arithmetic should be simplified by omitting various specified operations and over-difficult applications of the rest. In fact, the aim of the teacher should be, not to puzzle, but to train the pupil. That this is sound doctrine is certain, but on what application of it the metric system is omitted we fail to see.

SOME TIME AGO we had occasion to commend the action of a committee in excluding from the hall in which a teachers' association was meeting the hawkers of school-journals and school-books. We repeat now what we said then, namely, that while legitimate advertising is both necessary and useful, yet it is out of place when carried on so as to interfere with the proceedings of an association meeting. We recently saw a case in point. At a teachers' meeting not five hundred miles from this city, two agents had established themselves on either side of the main entrance to the hall, and were calling the attention of all who entered to their wares. This, within limits, is perhaps admissible; but during two admirable addresses, one on science-teaching and one on English composition, the noise at the agents' headquarters was so great that the speakers were heard with difficulty. Teachers lingered about the pile of books and papers instead of giving their attention to the exercises for which they had come together. The whole proceeding was discourteous in the extreme to the presiding officer and to the speakers, and ought to have been stopped at once. We have every reason to believe, however, that in the case of this particular association the practice will not occur again.

ON JULY 12 the annual meeting of the National educational association opens at Chicago. Generous arrangements have been made by which teachers can secure transportation and hotel accommodation at low rates, and there is every in-

ducement for teachers to attend the meeting. Perhaps the most valuable feature of the session will be the papers on industrial education, by President Walker of the Massachusetts institute of technology, and by Prof. Felix Adler of New York City, together with the discussions that will follow. But the smallest benefit to be derived from a meeting of this sort is that which comes from listening to papers and discussions. There is the stimulus that comes from seeing and meeting fellow-teachers from all parts of the country, from feeling the sense of professional co-operation. It is this which the teachers of the country most need at present, and it is this which they must have before their profession can occupy the place in the public mind that rightfully belongs to it. It is because of the part that the meeting of the National association plays in bringing about this feeling, that it is chiefly to be commended.

THE SUBJECT of the professional training of teachers is one which will bear all the discussion it can get, and Col. Francis W. Parker of Cook county Normal school, Illinois, Prof. Nelson B. Henry of the University of North Carolina, and Principal William M. Giffin of Newark (N.J.), are peculiarly qualified to write on it. To the student of education, to whom the necessity for such training is so imperative, further argument in its favor may seem useless; but it is surprising how little below the surface these arguments have as yet penetrated. In spite of all that has been so ably said and written on the subject, school boards continue to appoint untrained and incompetent persons to teachers' positions, and untrained persons continue to apply for positions which are as far beyond their capacity as those of a skilled draughtsman or electrician would be to any one ignorant of drawing or electricity. It is for this reason that the point must be unceasingly presented to the public. It must be admitted, too, that the normal schools are not in a true sense professional schools. They combine a large measure of general education with a moderate allowance of professional training. What we want is an institution or institutions that shall be as truly professional as the Harvard medical school or the Columbia law school. If the college to be opened in the autumn in this city by the Industrial education association shall occupy this place, it will contribute largely to put teaching upon a truly professional and scientific basis.

BY THE DEATH of Prof. Thomas Spencer Baynes, which was announced a few days since, the literary and scientific world is deprived of an influential and valuable worker. Professor Baynes's work is not as well known in this country as it ought to be, for the reason that much of his critical thought found expression only in articles and papers published in British magazines or in the proceedings of various associations. Professor Baynes was born in England, not in Scotland as it is sometimes supposed, at Wellington, Somersetshire, on March 24, 1823. He received his early education at the schools of Bath and Bristol, and then went to the University of Edinburgh. He sat at the feet of Sir William Hamilton, and undoubtedly received great mental stimulus from Hamilton's teaching. After taking his degree he became Hamilton's assistant. From 1857 to 1863 he was examiner in philosophy at the University of London, and was also connected with the London *Daily news*, to which he contributed many articles on the American war of the rebellion. In 1864 Mr. Baynes was chosen to fill the chair of logic and metaphysics at St. Andrews. In 1851 he had published his popular translation of the 'Port Royal logic,' which has gone through seven editions. In 1852 appeared his 'New analytic of logical forms,' being a prize essay on Hamilton's logical system, and the best exposition of it that we have. In 1874 Professor Baynes received the degree of LL.D. from the University of Edinburgh, and about that time undertook the preparation of the ninth edition of the 'Encyclopaedia Britannica.' Prof. Robertson Smith has since been associated with him as editor. Professor Baynes's most important contribution to the 'Encyclopaedia' is the article on Shakspeare, which was published in the volume lately issued.

DISTILLERY-MILK REPORT. — I.

IN seeking for information on the use of distillery swill, and its effect on the milk produced by cows to which it was fed, the results were so meagre, that *Science* determined to undertake an inquiry into the subject for itself. With this object in view, the following letter was prepared, and sent to the health officers of all the principal cities, and to the most prominent sanitarians, in the United States and Canada: —

Inasmuch as there appears to be a difference of opinion among sanitarians as to the wholesomeness of distillery waste, or distillery swill, as food