SCIENCE.

FRIDAY, OCTOBER 24, 1884.

COMMENT AND CRITICISM.

PROFESSOR COTTERILL, in an appendix to his new 'Applied mechanics,' describes the organization of the school of engineering in the Royal naval college at Greenwich. He states that the training of the students in the practice of naval architecture and of engineering takes place in the dockyards before entering the college, and during the three summer months in which the college is closed. For such training he considers the college-workshop a very imperfect substitute, and that it occupies time 'which may be better spent elsewhere.' He further deprecates the use of models in teaching such students, remarking that the engineer does not use models, but drawings. He considers that models are of little value for such purposes, and would even condemn their use to demonstrate the laws of motion. He is, however, in favor of their use in explaining mechanical principles. Professor Cotterill approves of the 'mechanical laboratory' in which experimental investigation can be carried on, and in which mechanics can be studied experimentally. He also would allow the use of the school-workshop in the 'lower grades of technical instruction.'

These views of so distinguished and experienced an educator will probably attract much attention from those who are engaged in similar work. It is a question, however, whether they will be very generally indorsed in this country, or indeed in any European country, if we may judge from the fact that the methods which he condemns are those which are most rapidly coming into use on both sides the Atlantic. In the discussion which took place in section D of the American association at Philadelphia, there seemed to be no difference of opinion on this point. All were apparently agreed that the school-workshop is the place in which the student should learn the use of the tools in the several trades, and that systematic instruction there is vastly more profitable than any that the best of shops engaged in purely commercial work can give. There may, however, be some question whether the same systematic instruction in the large shop or in the dockyards ('navy-yards') might not be still more fruitful and profitable. The only point which seemed to be thought important as a question to be settled, in the discussion referred to, was the relative value of the workshop conducted purely as a classroom and that in which a certain amount of commercial work is constantly carried on.

THE U. S. artillery school at Fort Monroe has the following paragraph among its recently approved regulations: "To the end that the school shall keep pace with professional progress, it is made the duty of instructors and assistant instructors to prepare and arrange, in accordance with the programme of instruction, the subject-matter of the courses of study committed to their charge. The same shall be submitted to the staff; and, after approval by that body, the same shall become the authorized text-books of the school, be printed at the school, issued, and adhered to as such." If all the courses of study in the school were strictly technical, or if all the instructors there were eminent specialists, this plan of fostering home products would doubtless work to the advantage of the students; but in such subjects as geology, botany, or zoölogy, in which the ordinary forms of instruction cannot be improved by special adaptation to artillery practice, we believe that nothing is gained by neglecting to use the generally approved text-books of the science. The work on geology lately published by the school does not dispel this belief.