

metry, are instructed in the methods of solution not requiring that science. Exercises are wrought out before the class, and in this, as in other branches, questions to be solved at home by the students are a constant concomitant of class instruction.—*Ottawa Times*.

II. Papers on Practical Education.

1. THE STUDY OF GEOGRAPHY.

The Right Hon. Mr. Forster, in his address upon the Colonies, insisted that every schoolboy in Britain and her dependencies should learn what the British Empire consists of, for any one impressed with a proper idea of its greatness would wish to preserve it. The study of geography is now held by scientists to supply one of the most attractive fields for genius. A new system of acquiring facts has come into use. In the eighteenth century, and the first half of the present one, though maritime discovery was prosecuted more or less ardently by great States employing adequate means, the work of exploring the interior of unknown countries was usually left to individuals, who spent whole sections of their lives in exploring countries or provinces which had, for any reason or no reason, attracted them. Sometimes a *savant*, sometimes a missionary, sometimes a man brimming over with the desire of adventure, the traveller entered the unknown country, wandered in its villages, became thoroughly familiar with its people, and either perished obscurely or emerged laden with his additions to human knowledge. Thus we got our knowledge of Central Africa and the interior of China, so far as they are known at all. The new plan is to send out a completely equipped expedition, with a sufficient force to ensure safety and apparatus to secure scientific accuracy. It is the better plan.

Investigations founded upon geographical data are now going on to determine how climatic influences have acted upon animal and vegetable life. Scientific deductions are worked out by men who have never gathered any rough facts for themselves. Richard Strachey, in his address to the Geographical Section of the British Association, on "The Place of Geography in Physical Science," showed his appreciation of the work of the traveller in his closing remarks. He said:

"It is the task of the geographer to bring together from all places on the earth's surface the materials from which shall be deduced the scientific conception of nature. Geography supplies the rough blocks wherewith to build up that grand structure towards the completion of which science is striving. The traveller, who is the journeyman of science, collects from all quarters of the earth observations of fact, to be submitted to the research of the student, and to provide the necessary means of verifying the inductions obtained by study, or the hypotheses suggested by it. If, therefore, travellers are to fulfil the duties put upon them by the division of scientific labour, they must maintain their knowledge of the several branches of science at such a standard as will enable them thoroughly to apprehend what are the present requirements of science, and the classes of facts on which fresh observation must be brought to bear to secure its advance. Nor does this involve any impracticable course of study. Such knowledge as fit will a traveller for usefully participating in the progress of science is now placed within the reach of everyone. The lustre of that energy and self-devotion which characterize the better class of explorers will not be dimmed, by joining to these qualities an amount of scientific training which will enable them to bring away from distant regions enlarged conceptions of other matters besides mere distance and direction. How great is the value to science of the observations of travellers endowed with a share of such instruction is testified by the labours of many living naturalists. In our days this is especially true; and I appeal to all who desire to promote the progress of geographical science as explorers, to prepare themselves for doing so efficiently, while they yet possess the vigour and physical powers that so much conduce to success in their pursuits."—*London Advertiser*.

2. TEACH SEWING IN PUBLIC SCHOOLS.

It is stated that Massachusetts will hereafter require that, so far as practicable, the girls in her public schools shall be taught sewing. This is a good move in a good direction. In these days of sewing-machines and high-pressure "book learning," the art of the needle-woman is too generally neglected. All girls should be taught the skilful use of the needle. To one it may mean resource for livelihood, to another an added grace of womanhood. Though a lady touch the keys like Arabella Goodard, or handle the brush like Rosa Bonheur, or wield the magic pen of George Eliot herself, she is still more the artist if able to sew on buttons and darn stockings; to stitch and seam, hem and fell, gather and bind, tuck and ruffle,

pleat and goffer—the veriest flesh-and-blood sewing-machine. We quote from "The Marble Farm" a paragraph or two, in which Hawthorne has his good word to say of needlework.

"There is something extremely pleasant and even touching—at least of very sweet, soft, and winning effect—in this peculiarity of needle-work, distinguishing women from men. Our own sex is incapable of any such by-play aside from the main business of life; but women—be they of what earthly rank they may, however gifted with intellect or genius, or endowed with awful beauty—have always some little handiwork ready to fill the tiny gap of every vacant moment. A needle is familiar to the fingers of them all. A queen, no doubt, plies it on occasion; the woman poet uses it as adroitly as her pen; the woman's eye that has discovered a new star turns from its glory to send the polished little instrument gleaming along the hem of her kerchief, or to darn a casual fray in her dress. And they have greatly the advantage of us in this respect. The slender thread of silk or cotton keeps them united with the small, familiar, gentle interests of life, the continually operative influences of which do so much for the health of the character, and carry off what would otherwise be a dangerous accumulation of morbid sensibility. A vast deal of human sympathy runs along this electric line, stretching from the throne to the wicker chair of the humblest sempstress, and keeping high and low species of communion with their kindred being. Methinks it is a token of healthy and gentle characteristics when women of high thoughts and accomplishments love to sew; especially as they are never more at home with their hearts than when so occupied. And when the work falls in a woman's lap, of its own accord, and the needle involuntarily ceases to fly, it is a sign of trouble, quite as trustworthy as the throb of the heart itself."—*Pennsylvania School Journal*.

3. TOO MANY TEXT-BOOKS IN OUR SCHOOLS.

One of the greatest drawbacks on the progress of education in this state, is its multiplicity of diluted text-books. In order to gain a modicum of knowledge of each of the common branches, pupils are expected to wade through the superficial contents of series comprising from three to eight books, of which each succeeding one is, for the most part, but a rehash of its predecessors. And as a natural consequence of all this, many of our pupils never find time to finish the most meager common school course. For to complete such a course, according to grade, in many of our city and other schools, would require from seven to thirteen years, and I have examined one grade which, if closely followed, would require eighteen years! And such a graduated course of study is a fraud on any community. For it not only puts parents to an unnecessary expense, but, at the same time, cheats their children out of their most precious time, and thus deprives them of all opportunities for acquiring any knowledge of even the elements of the higher branches. No series comprising more than two books relating to the same branch of study, except in the case of reading, in which it might consist of three, should be used in our public schools. And, indeed this is all that is necessary. For each branch of study naturally divides itself into two parts, one of which is inductive and the other deductive. And its text-books should correspond in character and number. In the first part, there is an inductive rising from the contemplation of the facts and phenomena peculiar to any branch of science, to an apprehension of its principles and laws; and in the second, there is a deduction from these principles and the laws of such rules and results as serve the purposes of practical life. For each of these parts there should be an appropriate text-book, which should be comparatively small, but logically arranged. And if all our public schools were supplied with such text-books, not only would our pupils obtain a far more thorough knowledge of the common school branches, but three-fourths of the time now spent in its acquisition would thus be saved. And while this would render it possible for every child to complete the ordinary common school course, it would leave ample time and opportunity for those who could remain longer at school, to study the rudiments of the natural sciences and make some progress in intellectual and moral culture.—*Deputy Sup't Curry of Pennsylvania*.

4. SWISS TEACHERS' CONFERENCE AT GENEVA.

On the first morning of the Conference the teachers present, to the number of nearly fifteen hundred, formed themselves into a procession, and marched through the principal thoroughfares of Geneva, preceded by a band and the federal flag. The first question proposed was the following: "What are the duties of the teacher towards society, and what are the duties of society towards the teacher?" This gave rise to a debate, which resulted in the presentation of eleven reports from the various sections. These reports have