

abstract and difficult examples. This result of facing the child with problems of undue difficulty and complexity, problems which really belong to the domain of algebra, has been that our teachers are driven to sacrifice instruction in principles to the mere working of examples as types. By constant repetition and mechanical drill the pupil is familiarized with these types, with the very words in which they are expressed (the "cue" words as they have been aptly called), till by wearisome practice he becomes habituated to the processes required for their solution. When examination tests conform to these familiar types, the pupil passes; but when the tests deal with unfamiliar matters, or are expressed in unfamiliar phraseology—that is, when the "cue" words are missing—the pupil fails. The problem in arithmetic makes a threefold demand on the child—(1) comprehension of the language in which the problem is set out; (2) comprehension of what is required to be done in order to solve the problem; (3) knowledge of the mechanical operations in arithmetic necessary to get the answer. The first, as Professor Suzzalo points out, is a question of language; the second is a question of reasoning-power. Our contention is that the bulk of problem work in arithmetic not only deals with facts and circumstances that do not lie within the experience of the average child of twelve or thirteen years of age, but, as a rule, it is beyond the natural scope of his reasoning-powers and comprehension of language, and that, instead of these faculties being cultivated with the object of enabling the child to cope with such work in a rational manner and to derive real educational benefit from it, valuable school time is being wasted in the acquisition of what at best is a merely factitious facility in getting answers. Opinions, of course, differ, but facts speak for themselves. No subject receives so much attention in our primary system as arithmetic: at least 20 per cent. of the child's school life is devoted to it, and it cannot be pretended that the results are in any way commensurate with this expenditure of time and teaching energy. The practical business man is not satisfied with the working knowledge of figures possessed by the boy who enters his office, nor is the secondary teacher satisfied with the arithmetic of the pupil who takes up his secondary course. We have dealt rather at length with this matter, because we feel convinced that reform is necessary, and, in our opinion, this reform should be on the lines set out by the Conference on the Teaching of Arithmetic in the London Elementary Schools, which advocates, in place of the old treatment of arithmetic, a correlation of arithmetic, elementary algebra, and geometry, under the heading of "elementary mathematics," and a return to the solution of all problems in proportion, profit and loss, interest, &c., by means of simple algebraical and graph methods. A reform on such lines would not only be a saving of time at present wasted in useless effort, but, by making possible closer correlation, would go far towards bridging the gap that at present exists between the primary and secondary courses.

HISTORY.—History is the least satisfactory of our school subjects. There is a lack of definite aim in its general treatment, and too much reliance has been placed on the dreary compilation of facts and dates which have hitherto done duty for text-books. After most careful consideration, a new publication, "The High-roads of History," has been issued to all our schools. The books have been so selected as to enable the subject to be treated on the periodic system in large schools, while in the case of small country schools it has been thought better (in view of the shorter school life and more broken time of the pupil) to adopt the concentric system. The series, which is beautifully illustrated and possesses high literary merit, provides not only a thoroughly comprehensive course of British and colonial history, but contains also a survey of ancient history sufficient for all reasonable requirements. But, after all, no book can supply the place of intelligent teaching, and no subject is more difficult to teach, or demands more skilful treatment, than history, and we heartily welcome the recent amendment in the Department's regulations which ensures that for the future proper prominence will be given to this subject in the professional training of the teacher himself. The absence of history from the compulsory subjects for a certificate, by depreciating its value in the eyes of the teacher, has in the past encouraged him to neglect what is really a most important branch of English literature.

GEOGRAPHY.—There is probably no more hopeful sign that the new education is coming to its own than the vast improvement apparent both in the methods of treatment and in the selection of matter in connection with geography. One proof of this is the fact that it is probably now the favourite subject with the majority of children. Much crude work is still done; too great a dependence is still placed on books, and too much is often attempted, but, notwithstanding these faults, there is much solid gain. We are often asked by teachers, overanxious as to examination results, for a more definite syllabus, and, to a certain extent, we must sympathize with what is really the outcome of a conscientious desire to fulfil official requirements. It should be remembered, however, that these requirements concern mainly competitive scholarship tests, and a return to a definite syllabus would be a return to text-books and the inevitable cram. Except where the teacher is an enthusiast in such work, much of the mathematical geography might reasonably be left for the secondary school course. We are pleased to note the increasing use made by pupils of their own atlases.

ELEMENTARY SCIENCE.—Nature-study, elementary agriculture, physiology and first aid, physical measurements, and in a few schools elementary chemistry, are taken in accordance with syllabus requirements. On the whole, good work is being done, more particularly along the lines of deepening the pupil's interests and strengthening the more formal work of the school. Geography, drawing, composition, and arithmetic should specially benefit from a wise correlation with elementary science. We are all too ready in the press of school work to forget that if science is to justify its retention on a primary-school syllabus—a point on which educational authorities are far from being unanimous—it can do so only by giving opportunity for a direct appeal to facts and first-hand experiment. Our teaching still tends to be too didactic. Rousseau (not Professor Armstrong) said, "Let your pupil know nothing because you have told him, but because he has comprehended it himself. He is not to learn science, but to discover it. If you ever substitute authority for reason he will be but the sport of others' opinions." We need not necessarily