

to ensure a provision of higher agricultural education for farmers in all parts of the country, a national system that is not dependent on the caprice or the poverty of any county council.

The novel feature in the memorandum besides the Inter-Departmental Committee is a proposal to create a Rural Education Conference, consisting of representatives of the County Councils' Association, the Agricultural Education Association, and other agricultural organisations, with certain officers of the two Boards. Such a consultative committee seems to smack of the Board of Agriculture's favourite attitude of asking the farmers what it can do for them, but perhaps the influence of the Board of Education, which takes a less humble view of its own expert qualifications and powers to give a lead, will supply the stiffening and find a means of translating the suggestions of the conference into practice.

SCIENCE TEACHING IN GERMAN SCHOOLS.

THE habit of self-depreciation, or at any rate the latest manifestation of it, which is now so prominent a feature of our national life, can be traced to its beginning in a general dissatisfaction with our system of education. At a time when there was no misgiving as to the superiority of our navy, when our commercial supremacy was still unchallenged, and when no foreigner dared to be our rival in the world of sport, it was nevertheless felt that in the science of education we had much to learn from abroad. If our secondary schools, especially the great "public schools," were allowed to have been successful in the formation of character, yet the intellectual equipment of those who passed through them was, and still is, held by many to be miserably inadequate. Germany, on the other hand, is regarded as the land, *par excellence*, where not only the schoolmaster knows and does his business, but where a parental Government has elaborated an almost ideal system of mental training. It is interesting, therefore, to hear that in one important province of school work—the teaching of natural science—there is another side to the picture.

Dr. Erich Leick¹ finds it necessary to bring before the minds of the German public certain points that with us for some years have been received as axiomatic, and are no longer discussed. In England we believe and act on the doctrine that no scheme of education, even for the children of well-to-do classes, should omit all reference to the living world of nature. It is, moreover, generally agreed that courses of practical lessons where common objects are studied by each pupil form the best means whereby the power of observation, clearness of expression, and the inductive methods of science can best be acquired, let alone a general interest and love for living things. Yet in Germany up till now, so we learn from Dr. Leick, natural-history lessons, if given at all in the secondary schools, have been of the old didactic kind, in which the teacher lectures almost entirely for one, or at most two, school hours in the week, and practical work is conspicuous for its absence. This seems to hold good for other branches of science, especially in the classical gymnasia, where, as Dr. Hoppe² tells us, practical work in physics is not insisted on, and is done only by "Freiwillige." His pamphlet, in fact, is written to show that some boys will do laboratory work out of school if allowed, and he gives hints as to the best exercises for such volunteers.

¹ "Die biologischen Schülerübungen." By Erich Leick. (Leipzig: Quelle and Meyer, 1909.)

² "Freiwillige Schülerübungen in Physik in humanistischen Gymnasien." By Prof. Dr. Edmund Hoppe. (Leipzig: Quelle and Meyer, 1909.)

It need scarcely be said that thoughtful teachers in Germany are dissatisfied with this state of things, and it is gratifying to read in Dr. Leick's account that the example of England is gradually affecting German science teaching. In fact, anyone who has read Mr. O. H. Latter's article on the teaching of science in secondary schools, recently published as an educational pamphlet by the Board of Education (see NATURE, August 12, p. 192), may well rub his eyes with astonishment at the antiquated systems still prevailing in many of the German Gymnasien and Realgymnasien compared to those of our own schools. Is it too much to hope that our improved methods of teaching may bring forth fruit in the next generation, and do much to remove the reproach we are constantly hurling at ourselves that we are an unscientific nation?

The limits of this notice forbid a discussion of either of these interesting pamphlets. Suffice it to say that Dr. Leick, after a review of the gradual introduction of inductive methods into the study of natural science, describes the ups and downs that biological teaching has met with in Germany, and acknowledges the part played by the authorities of Hamburg and Bremen in insisting on natural history being taught in their schools. He shows clearly enough the kind of mental training that biology alone can give, although he is no revolutionary who would sweep away humane letters out of the field. Especially noteworthy is his tactful reference to the problem of sex, how it can best be dealt with by natural-history lessons in the hands of a sympathetic teacher. Doubtless the details of his scheme invite criticism, especially the use of the compound microscope by young pupils, but they offer food for thought to all who have to teach his subjects.

Dr. Hoppe's little work may be well offered to those classical masters in our public schools, if such there be, who still believe, like Darwin's headmaster, that natural science is a waste of time, and have forgotten in their zeal for grammar the true spirit of inquiry of the ancient Greeks. Teachers of practical physics may gain some useful hints from his list of exercises.

But, as has already been suggested, the chief interest to British teachers in these pamphlets lies in the fact that they give us glimpses of what we should not have suspected in so scientific a country as Germany. They confirm the present writer's impression after hearing a science lesson in a German Realschule, that the boys were standing aside and watching rather than taking off their coats and joining in the work themselves.

M. D. H

ANTON DOHRN.

THE whole biological world will feel a pang of grief at the news of the death of Anton Dohrn, the founder and director of the Zoological Station of Naples. It is true that he had accomplished the great work which he set himself forty years ago, and had seen the projects and dreams of his youth fully realised—and more than realised. I met Dohrn first in 1870 at Liverpool, when Huxley was president of the British Association, and in May and June of the next year went, after a winter spent in Leipzig, to join him at Jena, where he was a "privat-docent" in zoology. He was then thirty years of age, and had done some excellent embryological work on the Crustacea, in furtherance of which he had passed some months at Naples and Messina. His father, with whom I later spent some weeks at Naples, was a very remarkable man, one of the iron-willed, somewhat grim type of North Germans, a handsome old gentleman, known throughout Europe as a great collector of Coleoptera,