

the discussion of weather variations, but popular analyses are proverbially unsound, and the psychologist has in recent years attacked this problem of individual differences with vigour, ingenuity, and insight.

It is as presenting a survey of work in this direction that Prof. Whipple's book is to be regarded. Hitherto nothing of the kind has been available, and the author has rendered a capital service to English workers in this field by compiling from widely extended sources such mental tests as have been used with more or less success in the study of children. The tests are arranged in the order of the simplicity of the psychical processes involved. Beginning with those which concern physical and motor capacity, they pass through those which measure the various forms of sensory acuity, to others which deal with attention, memory, suggestibility, and close with the Binet-Simon tests of intellectual development. Each test is accompanied by a critical survey of work already done in regard to it, and an exhaustive bibliography. As a mere index to the literature of this branch of psychology, the book is of the greatest value.

J. A. GREEN.

CULTIVATION OF THE LAND.

To Work a Grass Holding at a Living Profit, and the Cheap Cottage Problem. By H. B. M. Buchanan. Pp. vi+102. (London: Constable and Co., Ltd., 1910.) Price 1s. net.

FEW movements of recent years have attracted greater interest than the migration from town to country that now plays so large a part in the life of the village community. Not only does the well-to-do man live further out into the country, but the humbler town-dweller is being enticed out; and the agricultural labourer, instead of drifting off unheeded to the town, finds all sorts of inducements held out to him to remain where he is. Small holdings are one of the most important developments of this movement, and they are encouraged with the twofold object of getting more produce out of the land and of bringing up the next generation in the country rather than in the unhealthier conditions of the town. It is arguable that the small holding is, *per se*, uneconomical, since the small holder cannot have the intelligence of the good farmer, or he would long ago have become a large holder; but there can be no difference of opinion as to the desirability of raising the next generation in the country. This social aspect of the question has to be kept in view in dealing with the rather bulky literature that has grown up on the subject.

Mr. Buchanan has taken an honourable part in fostering the new movement. He has studied small holdings from within, having made some on his own estate and carefully watched their development. Two classes of small holders he considers are likely to succeed: experienced people who supplement the profits of the holding by outside employment; and colonies working on cooperative lines directed by skilled supervision. The basis of their work must be the cultivation of the land; they are not likely to succeed in raising poultry, geese, cows, &c., on purchased food,

however profitable the expert may find the business. And the weak link in all our cultivation is, in Mr. Buchanan's view, the management of our grass land. To this problem, therefore, he devotes a considerable amount of attention.

Grass presents a more difficult set of problems than any other crop. It is left down permanently; seeds of all kinds blow on to the ground, and may, if they can, germinate and grow, and finally oust some of the grass previously there. There is, in fact, a constant competition for existence among the various plants, and, in general, the poorer the soil, the larger the number of plants present. Artificial manuring, mowing, grazing, and grazing supplemented by concentrated foodstuffs, all modify the conditions obtaining, and favour some species that develop to the exclusion of others. The farmer's problem is to adopt those methods of treatment that shall in the shortest time and at the least cost enable the species he wants to crowd out those he does not want. In a certain empirical way, methods are known that will more or less do this, and Mr. Buchanan sets them out clearly and concisely.

The cheap cottage problem is intimately bound up with the small holding movement. The very large landowner may be prepared to put up cottages and let them at a rent that brings in little or no interest on the outlay, but Mr. Buchanan does not think these "charity cottages," as he calls them, will solve the problem. He gives plans and specifications of cottages at 500*l.* the pair that are suitable and comfortable, but as the rent has to be 4*s.* 6*d.* a week to make the outlay profitable, he arranges that a garden and pigsty can be included, the profits of which shall pay the rent. Suitable hints are given to the cultivator, and also to the owner of the estate.

The book will be found very interesting and suggestive not only to those concerned in small holdings, but also to the cultivator and to those engaged in agricultural education work

E. J. R.

NEW BOOKS ON CHEMISTRY.

- (1) *Introduction to Practical Organic Chemistry, including Qualitative and Quantitative Analysis and Preparations.* By Dr. A. M. Kellas. Pp. viii+204. (London: H. Frowde and Hodder and Stoughton, 1910.) Price 3*s.* 6*d.* net.
- (2) *New Reduction Methods in Volumetric Analysis.* A Monograph. By Prof. E. Knecht and Eva Hibbert. Pp. x+108. (London: Longmans, Green, and Co., 1910.) Price 3*s.* net.
- (3) *Introduction to General Chemistry.* By Prof. J. T. Stoddard. Pp. xviii+432. (New York: The Macmillan Co.; London: Macmillan and Co., Ltd., 1910.) Price 7*s.* net.

(1) THE "Introduction to Practical Organic Chemistry" is divided into six sections. The first section deals with qualitative tests, the second with general laboratory operations; the third with preparations, the fourth and fifth with the analysis of specific compounds, and the sixth with ultimate organic analysis and molecular weight determinations.