

This is explained more clearly by Professor Clark than by any other writer in English.

Utilities are further subdivided, and a different law of costliness is found to govern elementary utilities from that which obtains with respect to form and place utilities. The law of diminishing returns holds only for elementary utilities. This has an important bearing on Malthusianism, for a predominance is demonstrated of those utilities which tend to cheapness. At the same time the essence of Malthusianism is recognized and admirably stated in these words: It "maintains that a retarding of the rate of increase of population is an ultimate necessity, if humanity is to fully enjoy the earth and to perfect itself." This is a great improvement on any thing which can be found in previous writers, and ought to modify the teaching of political economy. Other points which must especially interest the professional economist are the theory of non-competing groups and the treatment of non-competitive economics, which show conclusively the existence of narrower limits to the range of competitive action than is ordinarily supposed.

The chapter on non-competitive economics is in some respects as important as any in the book. It demonstrates the fact that the field of non-competitive economics is increasing; that it ought, in the interest of humanity, to be still further widened; and that even now the highest forms of rational wealth are disbursed non-competitively.

The book abounds in valuable practical suggestions; but the man of affairs will be chiefly interested in the chapters on combinations, the ethics of trade, and the economic functions of the church. The last-named subject is discussed more profoundly than in any other book which has come under my notice, and the root of the matter is touched in the protest against the appeal in the forms of church activity to the spirit of caste. The author does not hesitate to call things by their proper names, and throughout he reveals a vigor of treatment equal to the strength of moral purpose everywhere displayed.

More, perhaps, might have been said about the nature of economic laws, which is to most economists even a dark field: and possibly the terms 'induction' and 'deduction' should have been more clearly defined. A great deal of current discussion on economic method leaves the painful impression of sad ignorance in the fundamental principles of logic as understood at present.

I cannot either express unqualified approval of what is said in regard to railways. I do not believe, as the result of my studies, that experience has so far pronounced in favor of government control rather than ownership of means of com-

munication and transportation; and, if that alternative be accepted, Professor Clark fails to show the possibility of an exercise of control over such powerful economic factors. Experience has never demonstrated it. However, this is a subject which needs much further discussion by non-partisans whose sole purpose is the public weal; and I close this notice of Professor Clark's book with the unhesitating assertion that it is one of the most important contributions to economics ever made by an American.

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PLANT-DISSECTION.

Handbook of plant-dissection. By J. C. ARTHUR, C. R. BARNES, and J. M. COULTER. New York, Holt, 1886. 8°.

THIS book is a useful guide to the study of a dozen plants of common occurrence, ranging from the most simple forms to those of highest organization. It is modelled on Huxley and Martin's 'Elementary biology,' physiological details being, however, omitted. The introduction gives brief instructions as to the instruments and materials to be used, including the simple lens and compound microscope; the chemical reagents employed; section-cutting and the mounting and drawing of objects; and a list of books of reference needed. The gross anatomy of the plant is first studied with the aid of a hand-lens only, and subsequently its minute anatomy explored with the compound microscope. Outlines are given for the complete study of the following forms: *Protococcus viridis*, *Oscillaria* (more usually written *Oscillatoria*) *tenuis*, *Spirogyra quinina*, *Cystopus candidus*, *Microsphaera Friesii*, *Marchantia polymorpha*, *Atrichum undulatum*, *Adiantum pedatum*, *Pinus sylvestris*, *Avena sativa*, *Trillium recurvatum*, and *Capsella Bursa-pastoris*. It would have been a little more convenient for the average student if one of our native pines had been selected instead of the Scotch pine, though this is quite commonly cultivated; and *Trillium recurvatum* is of rare occurrence in the eastern states, though for any other purpose save the study of its gross anatomy, any other species of wake-robin will answer as well. A useful glossary of terms used, and an index, are appended.

A REVOLVING pneumatic cannon, devised by a Washington inventor, is one of the most recent additions to the list of destructive weapons. Another recently invented device of a similar nature is an accelerating projectile, which is so constructed that a series of charges, contained in chambers attached to the rear of the projectile, are exploded in succession, at distinct intervals, as the projectile passes along the tube of the cannon.