

undertaken voluntarily. Notwithstanding these points of contrast, we doubt not that in a comparison between the attacks on property prevalent in the Greek republics and those with which we are now threatened the similarities are more important than the differences. Our philosophic historian agrees with the wisest of the ancients that the exploitation of the propertied classes led to the impoverishment of the people as a whole. This is a true saying which Lycias puts into the mouth of a rich client: "By making me poor you will injure yourselves." But the desire for immediate gain and the passion for levelling down prevailed with the many. Our author appears right in attributing to this cause largely the downfall of the Athenian democracy—"the noblest of the peoples recorded in history."

The finances of the Byzantine Empire are next considered. But we shall not now enter on this subject, as it is not completed in the present volume. We might have expected that the economy of Athens would be followed by that of the Macedonian Empire and the so-called Hellenistic period. But the author has seen fit to defer these portions of his history to a subsequent volume. It must be remembered that the present volume has the character of a fragment. It is, as set forth in the title, the second part of the first volume. Following high precedents, for instance that of Professor W. R. Scott—not to mention Homer—Professor Andréadès hurries his reader *in medias res*. The justification of the order adopted will be apparent when the work is published as a whole. Along with that consummation a translation into one or more modern languages is promised. We trust that English will be one of those languages. Our literature will be greatly enriched by acquiring the work of one who combines in a remarkable degree the often dissociated qualities of economic insight and historical research. He not only arranges economic fossils and explains their significance; he also searches for and finds new specimens.

Gold Prices and the Witwatersrand. By R. A. LEHFELDT.
D.Sc. (London: King. 1919. Pp. 130.)

PROFESSOR LEHFELDT brings to the study of gold and prices two qualifications which are rare in their combination: a powerful grasp of monetary theory and a practical acquaintance with the conditions of gold mining. With peculiar force and authority he discourses upon the stock of gold which constitutes

the supply of money, the requirements of commerce which form the demand for money, and the level of prices which results from the play of supply and demand. He verifies his theories by an historical retrospect, and applies them to the problems of the future.

The stock of gold in the world (excluding India and China) was almost stationary in the early 'forties of the nineteenth century. Then under the influence of increased annual production the stock continued to rise until the 'eighties. Again it became nearly stationary, and again it bounded upwards, reaching £1,000,000,000 in 1901 and nearly £1,500,000,000 in 1916. Meantime the demand for gold continued to increase with the progress of trade and industry. The rate of this progress is ingeniously measured by Professor Lehfelddt. He observes the annual rate of increase in the production of several commodities for which accurate data are available—meat, corn, tea, sugar, etc.—ranging from 1 per cent. to nearly 5 per cent. per annum. He takes as an inferior limit to the true rate the growth of population (say $1\frac{1}{2}$ to 2 per cent.), which is certainly slower than that of goods throughout the world; and as a superior limit the rate of increase calculated by Professor Irving Fisher for prosperous America (nearly 5 per cent.). From all which he concludes that the true rate of progress is not very different from 3 per cent. That would be the rate at which the stock of gold should have increased in order to keep pace with the volume of business, if the currency had been entirely metallic, and gold had been the only precious metal. But silver played an important part in the period under review. And the demand for precious metal was modified by "paper substitutes." Account must be taken of the "currency factor," defined as the currency actually used by the public of a country (exclusive of bank reserves) divided by the stock of gold in that country. And other factors there are affecting the demand for gold money; in particular the frequency with which either the same goods are sold, or the same money changes hands. Balancing all the factors, Professor Lehfelddt reaches the remarkable conclusion that "the quantity theory of money, as it would be if there were no money but gold, is but slightly modified by the circumstances of the modern commercial world." Equally accurate statements about monetary phenomena are not available in the course of a great war. "In peace time it is safe to say that considerable changes in price-level are due principally to monetary changes." But war introduces another cause of the first magnitude, difficulty of pro-

duction. No doubt "a great deal" of the present rise in prices is "due to inflation of the currency." But "it is too soon to make a quantitative estimate of the inflation due to the War." After the War it is not to be expected, thinks Professor Lehfelddt, that Government will resort to heroic measures for the reduction of inflation, such as contracting loans whereby to redeem paper currency. He looks, rather, for the growth of production up to the level of the inflated currency. At the rate of increase which he found for the trade and industry of the world, namely, about 3 per cent. per annum, it would take fourteen years for demand to overtake supply of currency in such wise as to restore prices to their old level. This desirable consummation might be delayed by an undue output of gold. As the mines of the Witwatersrand—from which nearly half the world's annual supply of gold is raised—are fairly prosperous, it might be to the interest of owners to greatly increase their output. But what might be the interest of each would not be the advantage of all, not that of the Government or of the world. Accordingly, Professor Lehfelddt recommends an international control of output. It would be sufficient that the four nations within whose territories are the principal gold mines should agree as to the control of those mines.

To attempt to improve on Professor Lehfelddt's monetary theory would be like gilding refined gold. The following reservations are submitted rather as alloy to his pure science. First, we suggest a definition of a leading term which is less distinct, but perhaps not less appropriate, than the definition adopted by our author. By "velocity of circulation," he says, "is meant the average number of times the money passes from one ownership to another in a year." In thus introducing the unit of time Professor Lehfelddt is in accord with very high authorities on the science of money, Jevons and Professor Irving Fisher. Yet it may be questioned whether they effected an improvement on Mill's ¹ definition, which was intended to "point attention to the quantity of work done, without suggesting the idea of estimating it by time." We shall be pardoned perhaps if we recite an old anecdote for the purpose of illustrating a point which may not be familiar to some readers. Tommy and Harry were taking a cask of beer to the Derby with the intention of retailing its contents at 6d. per glass, the proceeds to be divided between the two partners. On the way, Tommy, becoming thirsty, proposed to purchase a glass for his own consumption. He had not, indeed,

¹ *Political Economy*, Book III. ch. viii. § 3. The point at issue has been considered by the present writer in his lecture on "Currency and Finance," 1917.

the price of a glass; he had only a threepenny-bit. But he pointed out that if he handed this coin to Harry he, Harry, would be as well off as if the glass of beer had been sold to an outsider. Harry assented, the more readily as his pockets were empty. Presently Harry became thirsty; and the threepenny-bit again changed hands, in exchange for a half-glass of beer. In short, the nimble coin circulated with such efficiency that the entire contents of the cask were bought and sold before the end of the journey. Now who does not see that the point of the story does not depend on the duration of the journey? The moral would be the same whether the partners travelled by express train or in a donkey cart. To be sure, it comes to the same if, after defining the velocity of money with respect to the time, we also define the quantity of business or traffic—of “work done,” in Mill’s phrase—with respect to the time. Yet, why drag in the time? It is less usual, we believe, to drag it in with respect to that rapidity which is symmetrical with the velocity of currency, namely, the frequency with which the same goods are sold. Thus Professor Lehfelddt writes: “A piece of iron ore in the ground is eventually converted to a razor; how many sales are involved before the transformation is complete?” The answer to this question has little to do with the time occupied. Apropos of this second species of rapidity, we may recall Professor Lehfelddt’s brilliant suggestion (made in the *ECONOMIC JOURNAL* for 1918, p. 111) that a considerable change in this factor may have contributed to falsify the interpretation of monetary phenomena during the war. He now dwells upon another incident, the great increase in difficulty of production caused by the war. We surmise that there is something common to these two factors considered as disturbing monetary calculations. They both form large unique causes, deficient in that character of *sporadic independence* which is essential to the theory of Probabilities, which underlies the construction of index-numbers, which are required for the determination of changes in the level of prices and the volume of production. We hazard a further conjecture as to the reason why the catastrophic incidents of a great war are less amenable to scientific treatment. They have not, like the gradual growths of peace, the advantages of that deep first principle associated by mathematicians with the name of Taylor, according to which, when one quantity is dependent on another, small changes in the latter are apt to be attended with *proportionate* changes in the former. Thus if y , the level of prices, varies with x , the quantity of money, Δx , a small increment of the latter,

being attended by Δy , a small increment of the former, it may be expected that if Δx is doubled or increased by any not very large percentage; the corresponding increment Δy will, other things remaining unchanged, be increased by about the same percentage, whereas nothing like this can be predicated of the total quantities x and y . In this respect a considerable (or "integral") change in quantity x is a datum of less scientific worth than a small ("differential") change. For these reasons we are inclined to doubt whether it will be ever possible to make—what Professor Leffeldt admits that it is "too soon" to make—"a quantitative estimate of the inflation due to the War." It need hardly be added that the fine issues here raised nowise affect the main arguments and practical conclusions of Professor Leffeldt's masterly treatise.

The History of Trade Unionism. By SIDNEY and BEATRICE WEBB. Revised Edition. Extended to 1920. (London: Longmans, Green & Co. 1920. Pp. 763.)

THIS work comprises a revised version and a continuation of the History which was published in 1894. The reviewer of the first edition pronounced that the high reputation which the authors had already won independently of each other was sustained by their co-operation—then a new phenomenon. The second edition sustains a still higher reputation: that which has been earned by the collaboration of the well-matched consorts in many works of research and reflection during more than a quarter of a century.

In the new portion of the present volume, as well as in that which is reproduced, we admire the literary skill which has constructed a clear and impressive narrative from materials that are often deficient in personal interest and striking incident. The collection of recent facts does not, indeed, display the writers' talent for historical research so signally as did the earlier History. But if the task is less difficult, it is not less useful. It is convenient to have clear and succinct summaries of occurrences which though they have passed before our eyes, dwell confusedly in our memories. We may instance the enumeration of the various occasions on which Trade Unionism has been recognised and employed by Government since the outbreak of the War, or the description of the so-called "black-coated proletariat" who are joining the ranks of the trade unionists. The recent history is