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INTRODUCTION

A monetary condition has arisen during the last twelve years, the effects of which promise to be both far reaching and important in the industrial and social life of the world. Since 1896, the world's production of gold has been increasing at a rate hitherto unequalled, and at first glance it almost seems that a flood of gold is descending on us, that the expression of values therein will be exaggerated beyond the point of usefulness to man, and that gold as a standard of value will be discarded for a standard more nearly adaptable to changed conditions. There is no doubt but that if the present rate of increase in the world's production of gold should continue long enough, gold would ultimately become worthless as a standard. But the forces and influences which are at work, and which must be reckoned with before an intelligent opinion can be formed, are varied and interlaced, and one must be careful to view the subject dispassionately. It is, perhaps, easier to allow one's personal feelings and emotions to influence his ideas on the question of money than upon any other subject.

The world's output of gold in 1906, according to the report of the Director of the Mint, was $202,251,600, and this figure showed a remarkable increase during the preceding twelve years, even the production for 1890 being only $118,848,700. But the output of 1896
seems almost insignificant when we compare it with the $427,000,000 of gold mined during 1908. This increase in twelve years of more than 111\% is entirely without parallel in the history of the world.

Gold is unlike commodities in general in that most of the supply from year to year remains on hand and mitigates, on the one hand, the influence of sudden increases or decreases in the supply, and on the other, exerts a tremendous influence whenever the point of saturation is approached in the gold market. In 1896, the world's visible supply of gold was $4,359,600,000, and the output added to this in that year was so slight in comparison that it might seem to be only a healthy increase necessary to keep up with a natural increase in the uses of gold. But by 1908, the world's gold had reached nearly eight billions of dollars, while the rate of increase had attained so rapid a pace that, as Professor Norton has estimated, its continuance for twelve years more would double the world's present stock.

The primary problem, of course, is to determine whether or not the conditions of the gold market outlined above are abnormal or unjustified. The remarkable gold increase is coming at a time in industrial development when such a supply is most obviously needed. The rapid supplanting of the credit structure to take the place of the world's tangible money in business relations creates in itself a most important demand for new gold with which to support it and make

I. See reports of Director of the Mint, 1892, 1897, and preliminary estimate for 1908.
its existence possible. The last three or four decades have seen important strides taken by many countries of the world in the adoption of gold as a standard of value, and they have been strong factors in the market for gold with which to create their reserves. If, in view of every force which can cause increased demand for the new gold, it seems likely that the present output is only what the commercial world needs in its natural development, then the fact of its rapid increase is "solely academic interest." But if, on the other hand, the present output of gold is abnormal, if the supply is increasing so fast that its value as measured by other commodities, is declining substantially, if there is any reasonable ground for believing that gold may far decline in value permanently during the present century, then the problem becomes an intensely practical one for everyone who, either as debtor or creditor, is concerned with the values of property, and with obligations to pay.

The gold standard of value is primarily a commodity standard. The value of the gold which comprises a gold dollar varies as other commodities, in other words, it is governed, generally speaking, by the law of supply and demand. This fundamental fact is frequently lost sight of in discussions regarding price changes and the quantity of the medium. Gold, being the standard of value in this country, and in practically every other country of importance, has no price, from which it is common to infer that its value is constant. Moreover, it is important that we do not make the error of regarding gold as grouped against all other commodities in determining their
relation. Changes in the quantity of gold operate on each commodity in relation to the marginal utility of the latter.

Depreciation or appreciation of gold means simply that the relation between gold and goods has changed. The causes which can affect this depreciation or appreciation are many and varied. A very large sudden increase or decrease in the medium, of course, would immediately react by raising prices, but with such a condition we are not concerned. Important changes in the surplus of the volume of exchanges will react on the demand for money and hence on the price level. These changes, however, are irregular in amount, and cannot be definitely determined. Increases or decreases in the rapidity of circulation, that is, in the purchasing power of the money in circulation, other things being equal, increases or decreases the value of money, and so affects the price level. The tendency of an increase of population is to lower prices by causing an increased demand for money. A like result is experienced from a general reduction in the expenses of productive enterprise. Lastly, the gradual change in the supply of the medium will have a tendency to cause an inverse change in its value.

These are the more important forces which may affect the price level. Rapidity of circulation, as Professor Kinley points out, acts rather to maintain the price level than to form it, and, in our present society, highly equipped with well organized credit machinery, increased need for monetary service is met by increased performance of the existing supply, rather than by an increased quantity of
the medium. We may, then, leave the influence of the rapidity of circulation out of the discussion for the time being. The influence of world population, however slight it may be because of counteracting forces, is toward a lower price level. The trend of productive enterprises is toward a decreased cost of production, and hence, under competition, toward lower prices.

The last influence which we have to consider is undoubtedly the most important in its effect on our present problem. The tendency which it expresses is so completely affected by conflicting forces, that it is almost impossible to measure its exact importance. The mere fact that gold has been steadily increasing at an enormous rate, and that nominal prices during the last twelve years have also increased, at least raises a presumption of causal relation. It must, however, be admitted at the outset that no rule of thumb can be evolved, on which it will be possible to place one's finger and say that in this direction a supply of so much gold caused such a price change, and in that direction further gold increase will cause a definitely higher interest rate. The question is one of relative values and mutually conflicting forces, and a thorough study must first be made of related conditions before we can determine, first, whether the changes in prices have been real, and if so, to what extent they have thus changed.

CHAPTER 1.

THE PRODUCTION AND USES OF GOLD.

From earliest times, gold has been looked upon by people of all ages as a thing of value, and its use by the ancients as a measure of values and as a medium of exchange followed closely upon its use purely for ornaments and display. Yet the art of gold mining was in a very primitive state, and such quantities of the metal as were produced were secured from easily worked deposits. According to Mr. Jacob, the visible amount of metals available for monetary uses in the year 14 A.D., was $1,750,000,000, by far the greater part of which was gold. This amount had declined to $170,000,000 at the time when the great stores of the new world were opened. The causes of this decline lay principally in the fact that the fall of the Roman Empire had been attended by the practical loss of the art of mining and refining the raw product. Other causes helping to bring about such a decrease were abrasion, export to the east, and losses resulting from buried and hidden wealth. The average production in the seventeenth century was $16,500,000 of gold and at its close there was about $1,450,000,000 of gold and silver available for monetary uses. This sum had been increased to $1,850,000,000 by 1810, about $12,000,000, worth of gold being added to the supply each year.
From 1830 to 1840, the annual production was $5,484,400. This amount rose to $36,393,000 in the next decade, and to $132,513,000 by 1855. This average continued approximately until 1855, when it fell to $110,000,000. In 1889, the new supplies from South Africa began to appear, and swelled the output to $125,489,200. From 1889 to 1896, the output increased gradually, and since the latter year, it has expanded enormously, amounting to $427,000,000 in 1908.

The years immediately following the Californian and Australian discoveries are the most important of the modern period in showing the relation between the new gold and prices. The production of 1852 was three times that of 1850, but by this time the first effect of the opening of the mines was spent, and the production became more constant. Yet there had been a great deal of gold opened to the world, and the price level showed an immediate response. According to Jevons' calculations, the rise in prices from 1845-50 to 1860-62 was in the ratio of 100:110.25, or an increase of 10.25%; corresponding to a depreciation in the value of gold in the ratio of 100:90.70, or 9.53%. Business conditions both here and in Europe were unduly disturbed during the years 1860-66, so that the effects of the new gold were hard to trace. In 1869, however, Jevons wrote that prices had advanced 18% since 1849, and this estimate is borne

2. Ibid, 1892, page 57.
out, generally, by such price tables as are available for the period. This percentage takes on a larger meaning when we remember that from 1809 to 1849, there was a decline in prices of over 100%, due in part to inactivity in the gold mining industry. It must not be sup-
posed, however, that the tendency toward a rise in general prices following great increases in the gold supply, has always been actu-
ally manifested. On the contrary, as I shall show later, the di-
rectly opposite movement has sometimes occurred.

The Gold Mining Industry.

A close comparison of modern gold mining methods with the methods of the ancients shows a development more marked and inter-
esting than perhaps any other line of industrial pursuit, and the greater interest attaches to it because such development is, on the whole, a matter of the last century at the most. Competition has been the great force to bring about this tardy condition, but it has been a competition of a very peculiar nature. Gold in its cus-
tomary occurrence in nature is different from other metals in that the mere process of winning it from the earth is sufficient, and no complicated processes of separation and refining are necessary. The extraction of such placer deposits being of course the cheapest and easiest method, gold mining naturally followed this line until the exhaustion of the placers, and the world's pressing demand for the metal forced the development of other means.

1. See Chapter 2.
The immense deposits which were opened about 1850 speedily led the way to more scientific methods of gold extraction. In 1852 the hydraulic method, by which great strata of gold bearing ore is torn down under immense water pressure, was the first of these to be used. The practice of sinking shafts to great depths and working auriferous alluvia containing an almost unbelievably small amount of gold, followed closely. Dredges or excavators, which extract gold from masses of alluvial washings, were first introduced in Australia in 1889, and have since been used in working the old placers.

Aside from the mere work of extracting the gold from the earth, science has aided materially in the development of new processes for the separation of the new gold from the substances found in combination with it. The most important of these are the so-called chlorination and cyanide processes, and the use of mercury in collecting the fine gold particles. Each of these methods is attendant upon the newer methods of gold mining, and are necessary to that almost complete utilization of the whole quantity of the metal produced, which the working of low grade ore requires. It is, perhaps, hardly true to speak of the use of mercury as one of the newer methods, since it has long been used in Mexico and South America in the silver industry, yet it is so closely allied with chlorination and cyaniding, that it may be regarded as a new process. Chlorination consists in the application of chlorine to gold ore, forming gold chlorine, which breaks down easily and releases the uncombined gold. The use of water upon the gold chlorine necessarily leaves a great
mass of fine particles which will float on the surface and be carried away, so that mercury is used almost universally. The solution is allowed to pass over amalgamated mercurized plates, and when the latter are thoroughly saturated, the amalgam is scraped off, distilled, and the pure gold remains.

The cyanide process is not essentially different. Potassium cyanide is used to dissolve the gold and the substances found in connection with it, and the gold is then secured by the use of an electric current. Both processes have appeared during the last twenty-five years, and are largely responsible for the great increase in production which we are now experiencing. Many things have contributed to make them possible. The development of transportation facilities, the utilization of mountain streams as power generators, were forces without which their use at least would have been very narrowly restricted, but undoubtedly the prime cause which forced their introduction was the fall of prices following 1873, and the consequent increase in the purchasing power of gold.

Passing now to the geographical occurrence of gold in nature, it requires only a cursory glance to show the almost universality of gold deposits. There is scarcely a region in the whole world where gold does not occur in some degree of richness and facility of access. A table compiled by Mr. J.P. Hutchens shows twelve countries,

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1. The chlorination process in 1885, cyaniding in 1891.
widely separated geographically, whose productions in modern times have each exceeded $70,000,000, besides many others with very respectable totals. It is significant to note, furthermore, that in many of the regions which are in the front rank, the fault lies in unfavorable conditions of labor, transportation, lack of concentration in the deposits, or lack of capital, rather than in the failure of deposits, and almost at any time we may expect them to assume importance, if fortune should turn in their favor. South America, Russia, and the greater part of Asia are affected by just such conditions as these, and their most pressing need is an inflow of capital to develop a vast amount of latent ores. The United States, Australasia, and the Transvaal supplied about $500,000,000 of the $400,000,000 world's output in 1906, or 75%. Of this amount, the Rand produced nearly $118,800,000, almost 30% of the total. This percentage rose to 37.4% in 1908, proving conclusively that for the present at least, the Rand is the foremost gold producer.

There is a peculiar aspect of the problem of gold mining which exerts a powerful influence on the question of cost and output. This is the fact that a great deal of the yearly supply comes into the market, not direct from the gold mines, but as a by-product of copper and other ores. The gold value here is almost entirely a surplus which no amount of depreciation will affect, so long as the principal ore remains profitable. The gold thus obtained has been variously estimated at from 20% to 35% of the total annual output, and we may reasonably expect the percentage to increase with the de-
development of science and chemistry.

It is of interest to note in this connection the uniform advance in price which the stock of the Rand mines has made during the last few years, and especially during 1908. These facts, strengthened by the fact that mines elsewhere show a similar phenomena, although in a less degree, has caused many of our prominent economists, who view the recent gold additions with alarm, to decide that profits as a whole are much greater here than in other industries, and consequently that depreciation in gold value cannot be depended upon to cut down the output in the near future. The question is a very fine one. It will hardly be denied, however, that, in gold mining as a whole, we are coming inevitably to a closer and closer approximation between cost and value. That we have not done so sooner is due to two prominent causes: that the immense fund on hand exerts such a great influence that the cost of the new gold is little felt, and that the last century's demand has been so great and the cost ordinarily so small that no approximation between cost and value could be obtained. The very fact that the introduction of newer and more scientific methods have been demanded in itself indicates that the gold mining industry is coming to be founded rather upon competitive business principles than upon mere chance. As an eminent authority has pointed out, many gold mines now only pay a small margin of profit, and a higher level of prices is sure to curtail pro-

1. See weekly quotations furnished by the London Economist.
duction in that direction. Del Mar proved in 1879 that the cost of gold and silver in the United States under free mining was about five to one of value. It is almost impossible to arrive at any conclusion as to what is the cost of mining gold. Each locality, every mine in fact, has peculiar conditions of its own to meet, yet it is safe to say that by far the greater part of the present output is produced upon a small margin of profit. Of course the business of gold mining is peculiar, and the personal equation must not be ignored. The development of scientific methods will not entirely remove the fascination which seems to attach itself to gold mining, nor can we forget the fact that, owing to the natural inertia of the human mind, capital and labor will remain here for years after the cost has exceeded the value to be obtained.

The Work of Gold.

The world's demand for gold may be roughly divided into three classes: the medium, the arts, and the reserve demands. These classes are self-explanatory. Authorities differ as to their relative importance, but it is unquestioned that the medium demand is, by far, the least important. Many writers class the medium and reserve demands together as the coinage demand, yet there seems good reason to make the distinction. The same force which has pushed the reserve demand to such a prominent place in the last century has curtailed the proportionate demand for gold as a direct medium. This force is the development of credit machinery. Despite its undoubted super-
iority in most ways, gold wears out easily, and the loss thus sustained is of great importance in the aggregate. Moreover, in our commercial development, we have come to the place where we cannot afford the time and trouble necessary to use a medium of even as high an intrinsic value as gold. But we will use credit media only so far as we know it to be based upon something of value, which in its last analysis is expressed in gold. The reserve demand arises because we have, in a large measure, economically outgrown the medium demand.

It has long been argued that as civilization advances, people come to care less and less for articles of display and personal adornment, and that in consequence, the arts demand must fall off. The facts do not bear out the assumption, although exact figures are almost inaccessible because of the proportion of old jewelery which is melted down each year, and which forms an indeterminate part of the whole amount used. The most ultra-conservative put the arts demand at 25% of the whole amount mined, but the weight of authority is that this is too low. Sootbeer estimated, in 1886, that the arts consumed 68%, and M.deLaunay, in 1908, placed it at 50%. Probably from 35% to 40% would be well within the facts.

The nineteenth century saw an unexampled expansion in the demand for gold. Commercial development was largely responsible, but there was another cause which probably exerted more influence. This was the almost universal adoption of gold as a standard of value. In 1."The World's Gold", pages 175-6.
this movement, England led the way, and followers were almost immediate. Besides the important commercial nations of Western Europe and the United States, Russia and Japan in the Orient have adopted gold, and steps have been taken to extend the system to dependencies. This movement has created an immense demand, and as a consequence, great nations have been engaged in a veritable scramble for gold with which to build up their reserves. In Russia, where fifteen years ago gold was almost unknown, there is at the present time nearly $700,000,000, and in Japan the comparative figures are almost as startling. This demand may safely be regarded as one of the most potent forces in keeping the value of gold high at the same time that the working cost of the mines was tending downwards, and low grade ores becoming constantly more available.

It has been thought that, once the point of satiety is reached, this outlet for gold will be closed. Such a condition is extremely unlikely. Government reserves, indeed, may reach a point where additions will be slow and slightly important as compared with the total output, but the bank reserves of commercially active countries can hardly become so. The new gold first finds its way to the banks. Increased facilities for loans are reflected by increased production of goods offered in exchange for gold. The need for greater credit facilities, in turn, creates a demand for more gold to support them. It does not seem that we need expect anything but a normal increase in the reserve demand for gold.

It is suggested in many quarters that the reserve use of gold
is unjustified folly, unworthy of our present degree of civilization, and an enterprising novelist recently gave us a story of a man who secretly substituted iron slugs for the gold reserve of a great bank to prove that the idea of a gold reserve was based purely on faith. With the theoretic justification of the system we are not concerned. The fact remains that it forms the foundation of an entire credit fabric which would not endure a day without it, and economic or not as its use may be, we must inevitably retain it.

It seems a much more sensible view to take of the matter to consider whether we cannot make our credit systems more stable and secure by the judicious increases of the gold reserves. We seem to be on the verge of a condition in the gold supply which will make this possible, and certainly no better use for any surplus gold could be devised. At the present time there is in circulation about three and a half billions of uncovered paper money, to say nothing of deposit and other credit liabilities. Mr. M.L. Muhleman, who has lately written upon this phase of the question, would find place in the United States alone for $750,000,000 to replace our greenbacks, as a reserve against the silver issues, and in strengthening the reserves of commercial banks and trust companies. Conditions abroad are not different. Developments since Mr. Muhleman wrote have proven the need of some such action, that it is folly to talk of a superabundance of gold while conditions exist which made

possible the recent panic.

To summarize: The arts demand for gold consumes a large part of the annual output, and there is no indication of any diminution in this direction. The medium demand is of less importance, but all decrease in this direction increases the amount of credit media which is or should be protected by adequate gold reserves. The first indication of an excess in the supply of gold can be turned to this very much needed use. Most of the commercial countries of the world have definitely adopted the gold standard, and may be counted upon to require more and more gold to build up and maintain their reserves.
CHAPTER II.

THE GENERAL PRICE LEVEL.

In discussions involving the relation of money supply and prices, no theory has had such wide circulation, or has been the subject of more heated controversy than what is known as the quantity theory of money. As stated in its crudest form, it asserts arbitrarily that the prices of commodities vary in the direct mathematical proportion which the new supplies of gold bear to those already in existence. Ricardo, in 1817, says: "The demand for money is regulated entirely by its value, and its value by its quantity." John Stuart Mill, writing in 1847, modified this statement somewhat by inserting the phrase "other things being equal", and this is the statement of the theory generally used by its supporters. General Walker says that the value of money depends, like the value of anything else, on the relations of demand and supply; that prices are determined by the amount of goods offered for sale and the amount of money offered for the goods." The opponents of the theory quite generally that the quantity of money is one of the forces affecting the price level, but insist upon regarding it as only one among oth-

er causes which may either accelerate its action or render it altogether inoperative. It is unnecessary, in this connection, to go into the history of this theory, however interesting it is in the somewhat ludicrous variations which it has undergone, and in the fierce contentions which have taken place around it. It is sufficient to say, that as the question has resolved itself at the present time, it amounts finally to this: For those who accept the theory, all changes in the price level result primarily from corresponding changes in the volume of currency; for the opponents of the theory, the causal relation is reversed, the quantity of money being the result of price changes which in turn are due to modifications in the ratio of exchange between gold and goods, in the determination of which modifications the supply of gold is one among many influencing factors. The one side regards high prices as the result of increased money, the other views them as the result of changed conditions in the demand or supply of commodities, or of gold, or of both, and regards the larger volume of currency as the result of increased demand caused by higher prices.

Controversy over the acceptance or denial of the quantity theory has been and is of the most strenuous nature. One prominent advocate says that its denial will some day take its place alongside the denial of the sphericity of the earth. Yet a careful re-


2. Mr. Bronson C. Keeler.
view of the arguments pro and con fails to reveal any sharp points of distinction. The dispute seems to be more didactic than real, and if this is the case, its importance in this discussion can be very easily overestimated. Not even the most radical of the adherents of the quantitative theory would urge it as the sole explanation of the rise in the price level. They state it as "other things being equal", or "other things remaining the same", and usually admit at the same time that such conditions are not to be found in actual experience. On the other hand, very few of the non-quantity theorists deny that the volume of money is a strong element in the determination of the price level.

In its application to the existing conditions, the question is simply this: We are in the midst of a huge increase of the world's supply of gold. Have prices risen correspondingly during the period of increased production? If they have, may we attribute the rise to the greater volume of gold as the prime cause, or shall we search for other causes? If the former, must we expect from a continuance of present conditions in the gold mining industry that prices must keep to their upward tendency? If the rise in prices has been real, where has it been most manifested? To attempt an answer to these inquiries, we must study, not only the price conditions of the past during increases and decreases of the volume of gold, but also the price-making conditions of those periods.

During the period from 1850 to the present time, various price tables have been constructed with a view to recording yearly prices and the fluctuations of the general level of prices. The data, for the most part, has been crude and unsatisfactory, and widely varying means have been used for balancing and weighting the articles employed. The most important and reliable of these records are those kept by the London Economist, Sauerbeck, Sootbeer, and Falkner, and for the later period, the tables of the Aldrich Report for 1891, Dun's, and the United States Labor Bureau. It is unnecessary to go into the methods and merits of each, and while no one, of course, can be exact, it is enough for our present purposes that, speaking generally, they agree in their analysis of conditions for the periods we shall wish to examine.

It may be said at the outset that the history of the past sixty years does not, by any means, show a complete coincidence of time between increases in the gold product and general prices. From 1850 to 1860, as shown in the accompanying table, the annual output rose from 44 millions to 127 millions. During the same period, Sauerbeck's index number of commodity prices rose from 77 to 99, the Economist's number rose from 2200 to 2727, and the number compiled by the Aldrich committee from 89.2 to 100. The other tables show a similar trend. From 1860 to 1864 the output of gold fell to 122 millions yearly, but here the price tables without exception show increases for the period. The explanation is not far to seek. The commercial

countries of the world, which control the price level, were being disturbed by a great war. The financing of a great war is always a world-wide matter, and indirectly a great deal of gold must be fed into it. Increased demand reflected itself in higher prices. From 1864 to the close of the decade, the gold situation showed little variation, while prices slowly fell, judged by all reports except that of the Aldrich committee. The reason is to be found in the tendency to the normal following the war, and expressed, as it naturally would be, in foreign tables sooner than in our own.

The years 1870-1885 were years of falling prices, and also of still further decrease in gold production. The output had declined to $95.000,000 by the latter year. Sauerbeck's index number fell from 96 to 72, the Aldrich number from 119 to 106, the Economist's, from 2689 to 2542, and Falkner's, from 130.4 to 104.5. The period from 1883 to 1896 was a period of falling prices and increasing gold production. During these years it would have been surprising if the falling prices precipitated by the demonetization of silver in the United States in 1875 had not continued. The whole commercial world was rife with the agitation for bimetallism, and that sense of security in the money standard so necessary to prosperity was lacking. Falling prices, undoubtedly, were further caused by the unusual technical and commercial development which took place during these years. Sauerbeck's number fell from 82 to 661, and the Economist's, from 2342 to 1999. Other price tables are not continuous for this period. The world's gold output increased
to over 200 millions annually, in part stimulated during this period by the new processes of extraction and refining already alluded to.

It is hardly necessary to speak of the present period, including the last thirteen years, which, of course, is the period with which we are most concerned. It is a matter of common knowledge that the gold output and the price level have gone up together, and the increase in each has been enormous. As mentioned above, the world is now mining well over $400,000,000 of gold. From 1896 to 1908, the index number of retail prices compiled by the Labor Bureau, and based on the average for 1890-99 as equal to 100, rose from 95.5 to 120.6. For the decade 1897-1907, the Economist's tables record an average rise of 56½% in general prices, 61½% of which was achieved during the last two years.

There has always, then, been some cause which acted to check extraordinary advances in the price level, many times in the face of largely increased gold production, as the periods of 1857-61, 1864-70, 1873-79, 1881-86, and 1891-98 indicate. It is as much folly to expect gold and prices to always fluctuate together as to deny any possible connection between them. The preeminent things which the behavior of the price level for the last sixty years seems to indicate are these: First, that the tendencies have been, for prices to rise when gold production was increasing. Second, that other forces could and often did prevent this tendency from operating. Third, that these other forces are many and varied, and may

either retard or accelerate the prevailing tendency. War, panic, monetary agitation, and the commercial disturbances incident to them, have made themselves keenly felt in this adjustment. The tendency of industrial development has undoubtedly been toward lower prices, through an evolutionary development of the means of production. The present period is witnessing the operation of increased gold on the price level, undisturbed by counteracting forces of sufficient strength to turn aside its action. Probably the more important of the causes which are aiding the movement toward higher prices, coincident with the great gold output, are the rise and policies of labor unions and industrial consolidations, the comparative failure of agriculture to keep pace with population, a high protective tariff in many important commercial countries, and lastly, the impulse which has been steadily growing during the last fifteen years for all classes of people to live better. The quality of the amount necessary for subsistence has greatly risen, and, as the Armours point out, "75% of the demand is for 25% of the steer". These forces are all distinct from the increase in gold, and their upward action on the price level cannot, therefore, be said to be limited by the gold output. It may be said that the existence of labor unions and combinations of capital are at once a cause and effect of high prices, the other forces exist in spite of them. In attempt-

1. It must not be overlooked that this force will keep the cheaper grades of goods from rising as high as they would without it.
ing to judge, then the probable future course of the price level, we have not to consider merely the amount of the gold output.

The new gold itself extends prices by enabling the commercial world to support an increase of credit media, as Cairnes pointed out in 1873. Going first to the banks, it swells their reserves, and enables them to increase their loans and discounts. Three important consequences follow this expansion of loans: (1) New enterprises are launched because money can be had readily and, at first, at a low rate of interest. (2) Speculators are equipped with the power to tie up the market, and hold commodities and securities for a high price. (3) Larger individual expenditures result from increased credit facilities. These results in themselves have been the most urgent demand for new gold to replenish the bank reserves. There has thus been established in the monetary world, subsequent to the expansion and high prices of the present period, a demand for gold which only the great supply which has responded has been sufficient to satisfy. So it is that we may regard the new gold as at once an important factor in the present high prices, and its production the result of them.

The normal trend of manufacturing and technical development is usually conceded to be toward lower prices. The progress of invention, normal competition, either where such is natural from the na-

ture of the industry, or where it is secured by law, consumers' associations and leagues, and the exploitation of undeveloped natural resources, are the chief forces which are helping to keep the general level of prices down in the face of a strong upward tendency. The extent of their influence it is, of course, almost impossible to determine. One prominent writer on the subject, who has fears for the future of gold as a standard of value, estimates the downward tendency at 5, and argues that an increase of gold of more than 1 this amount will therefore cause prices to rise. Undoubtedly this is too low. Other writers estimate it at 10, and this figure probably is not far in excess of the facts.

The price level, then, at any given time and through long periods is the result, not of the amount of the medium of exchange, but of this amount considered in its co-relations with a mass of other forces, some independent of the quantity of the medium, and some not. These forces are intertwined, and do not exert the same strength under all conditions. Further than this, experience alone can determine how far they will be effective in shaping the price level of the future. As for the volume of the medium alone, as pointed out before, there seems to be imminent neither a dearth of the raw material, or any immediate curtailment of the supply due to expenses of producing it. The present rate of acceleration, indeed, may not keep up, but we have every reason to expect a steady increase in the annual output. Without attempting to look too far in-

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to the future, it may be said that the other important upward tendencies in the determination of the price level, unions, industrial combines, the tariff, and the shift in the subsistence minimum, do not at the present time, show signs of abatement nor of acting in the opposite direction on prices. Combinations of labor and capital have attained a position which is quite generally recognized as morally and economically sound. The commercial nations of the world have been slow to recognize the economic advantages of universal free trade, and although the general trend is probably in that direction, it will be long before it is consummated, too slow a process to seriously affect the present problem. With the spread of civilization and education which the twentieth century is witnessing, it is not surprising that the general standard of living should have risen immensely, or that it should so continue. On the whole, there is good reason to expect the present upward trend of the price level to continue for some years at least, until some force intervenes with sufficient strength to cause a reaction.
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CHAPTER III.

DEPRECIATION AND THE LABORER.

Assuming, then that gold is falling in value, or what is the same thing, that prices of commodities in general are rising, and may be expected to continue so for some time, let us consider what the effects have been and are likely to be on the condition of the working man.

It may be said at the outset that, under any conditions involving a changing price level, the laborer is likely to be at a disadvantage. His labor is his commodity, which is wholly perishable and must be sold at some price, however low that may be. When the capitalist sees interest rates rising, he turns his wealth into laenable funds and takes advantage of the situation, and when times are unfavorable to the borrowing of funds, other means are usually to be found which render disadvantageous operations unnecessary. It is not so with the laborer. The labor of today must be sold today, or it is gone forever, and the laborer must bear the whole loss. The employers of labor have been slow to recognize the contractual element in wages, slow to see that the vendor of the labor should participate in fixing its price, consequently wages in the past have often adhered rather closely to the minimum of subsistence, below which employers could not depress them, and to the
standard of life to which the laborers were accustomed. Appreciation or depreciation of the money article, of course, depressed or raised the subsistence minimum as expressed in money. But the laborer was the last to feel such effects. Only when great pressure was brought to bear on the employers of labor, through an appreciation in the price of the laborer's necessary consumable goods, have nominal wages as a whole risen to preserve the previously existing real wages. On the other hand, competition among producers of goods has usually been so keen that the slightest rise in the purchasing power of the dollar has been accompanied by corresponding attempts to depress nominal wages. Yet the process in either direction is a slow one. A consideration of these tendencies will serve to make clear several instances in the trend of wages during the last sixty years.

The most reliable wage statistics for the United States covering this period are those of the Aldrich Report and the bulletins of the Labor Bureau, which are given in detail on pages 28 and 29. Foreign tables give, as to general tendencies, the same results as those for this country, and as our discussion concerns more particularly American labor, the foreign tables will not be used. From 1850 to 1855, wages in general rose about 7 1/2%, while prices went up about 20%. During the next five years, however, prices responded to the double influence of the panic and the recovery from the great flood of gold in 1850, and fell, while wages continued to advance slightly. During the Civil War period gold wages fell enormously,
but recovered almost as suddenly. The currency table for the period however, shows a steady and constantly increasing rise in wages. From 1865 to 1879, the gold and currency prices of labor continued high, and in the latter year, with the resumption of specie payments, wages were 39½% higher than in 1860. But general prices were at practically the same place, and the laborer could buy nearly one-half more with his wage in the latter year than in the former. The explanation is to be found in the great industrial expansion following the war and the consequent heavy demand for labor. From 1879 to 1890, wages kept to their slight upward tendency, while prices fell. From 1890 to 1895, in the depression years, wages and general prices both fell, the latter, however, much more violently. Since 1895, wages have followed the great rise in the price level, and, indeed, show an even greater increase than prices. According to the tables of the Bureau of Labor, wages in 1906 were 28.8½% higher than they were for the average of the years 1890-97, and 30.5½% higher than in 1895. Prices in the same period rose 20.6½%.

It is obvious that the wage tendencies which have stated are insufficient to account for some of the movements in wages which this period of sixty years reveals. Instead of wages following advances in the price level slowly and in a very slight degree, as might be expected from the known tendencies, there has been, especially in the latter part of the period, more and more readiness on the part of the wage level to break away from the general price level, and to exhibit an independence in its movements up and down. The explana-
tion lies largely in the rise of labor organizations. The laborer was being handicapped to a greater or less degree under this system of high prices brought about through the depreciation of gold, and through the advance in his own standard of living, as has already been pointed out, and it has been the part of organized labor as it has recently developed to discount this handicap.

It is in this direction that we must look for the reasons why wages have outstripped prices in general in the last sixteen years of persistence advance. Labor unions have succeeded in forcing employers of labor to recognize the contract element in the determination of wages. They put the laborer on much the same plane as the capitalist, through their systems of professional bargainers, strike funds, and sickness and death benefits, so that labor has emerged from that class of commodities which are wholly perishable. They have raised wages and improved the physical conditions of their members, and, which is possibly of even greater importance, they have indirectly raised the price of labor in occupations other than those in which they were directly formed.

It appears, then, that while wages in the past have shown marked sympathy with the trend of the general price level, and with the appreciation and depreciation of gold, we must still take into account other forces and influencing factors, if we wish to arrive at a complete explanation of the present movement. The influence of the new gold on wages is always an indirect one. The increase of bank reserves and the consequent ease in the money market stimulates
productive enterprises, and results in increased demand for materials and labor, which, as long as the supply is insufficient, means higher prices for both. The effect is very similar to the effect of the new supplies of gold on prices, and in a way grows out of it, and we have seen that in neither prices nor wages is the new gold necessarily a determining factor. The extent of the stimulation to wages caused by new gold is determined by the extent of the stimulation which is given to production. For instance, I have said that a great increase in the loanable funds at a low rate would encourage productive enterprise. Yet it is doubtful if, under such conditions, much of these funds would be drawn off to increase the output of cut glass or silk tapestries. Slight changes in the price of such articles only slightly affect the demand for them. The wages of the workmen in such industries will therefore hardly be affected by the new gold until the slower adjustment of general prices has taken place. But on the other hand, hat makers, tailors and mechanics will feel the influence much sooner, because as loanable funds become cheaper and more accessible, they will be utilized in such trades first, causing increased demand for labor and higher wages. Therefore the immediate effect of an increased amount of gold will not be the same throughout the different trades, and those will benefit most which are concerned with articles of common consumption. Our problem, however, is concerned with a condition of prolonged, heavy, gold output, and the wage results of such, if viewed as a whole, are neither sectional nor restricted as to trades. Increased
gold output causes increased wages, although other causes may either act to prevent real wages from actually rising, or, as in the present instance, may accelerate its action.

If we grant, then, that through labor organizations and through the natural results of an increase of gold, the nominal price of labor has advanced enough to keep pace with or even to slightly exceed the advance in prices, the question is still before us whether or not the laborer has benefited under the depreciation of gold, and what the effects in the future are likely to be. It is the real wage which he receives that is of interest to every wage or salary earner. If his nominal wage has advanced from $1.00 per day to $2.00, while the prices of the things which he needs to buy have increased 125%, he is obviously much worse off than before. The accompanying table of the prices of commodities consumed by the average worker will serve to throw some light on this point:

(From bulletin of Bureau of Labor, No. 77, pages 185 and 7.)

<table>
<thead>
<tr>
<th>Year</th>
<th>Wages per hour</th>
<th>Full time weekly earning per employee</th>
<th>Retail prices of food, weighted</th>
</tr>
</thead>
<tbody>
<tr>
<td>1890</td>
<td>100.3</td>
<td>101.0</td>
<td>102.4</td>
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<tr>
<td>1891</td>
<td>100.3</td>
<td>100.8</td>
<td>103.8</td>
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<td>1892</td>
<td>100.8</td>
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<td>1893</td>
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<td>1894</td>
<td>97.9</td>
<td>97.7</td>
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<td>1895</td>
<td>98.3</td>
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<td>97.8</td>
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<td>1896</td>
<td>99.7</td>
<td>99.5</td>
<td>95.5</td>
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<td>1897</td>
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<td>99.2</td>
<td>96.3</td>
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<td>98.7</td>
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<tr>
<td>1899</td>
<td>102.0</td>
<td>101.2</td>
<td>99.5</td>
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<tr>
<td>1900</td>
<td>105.5</td>
<td>104.1</td>
<td>101.1</td>
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<tr>
<td>1901</td>
<td>108.0</td>
<td>105.9</td>
<td>105.2</td>
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<tr>
<td>1902</td>
<td>112.2</td>
<td>109.2</td>
<td>110.9</td>
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<td>1903</td>
<td>116.2</td>
<td>112.3</td>
<td>110.3</td>
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<td>1904</td>
<td>117.0</td>
<td>112.2</td>
<td>111.7</td>
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<tr>
<td>1905</td>
<td>118.9</td>
<td>114.0</td>
<td>112.4</td>
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<tr>
<td>1906</td>
<td>124.8</td>
<td>119.5</td>
<td>115.7</td>
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<tr>
<td>1907</td>
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The price statistics here given represent in each year the average of thirty articles of common use, weighted according to consumption in 2,576 workingmen's families, and may be taken as a fair measure of the changes which the last seventeen years have brought about in the material well-being of the laborer. The years 1894 to 1898 are distinguished as years of the lowest figures in wages and food prices, following the stringency of the previous few years. Since 1898, wages per hour have risen from 99.6 (average 1890-99 taken as 100) to 128.8 in 1907, while weekly earnings have risen from 99.2 to 122.4, revealing in itself a slight, though important, aspect of the changing condition of the laborer. That such a radical advance in wages has not worked entirely to the advantage of the laborer is shown by the table of food prices, which registers an advance from 98.7 in 1898 to 120.6 in 1907. Yet it is obvious that whatever change in the ratio between wages and food prices the years under discussion have brought, the laborer has secured a substantial benefit and betterment. Where, in 1895, a workman received $.326 per hour, in 1907 he received $.429, or 31.6% more. On the other hand, where the food necessities for his family in 1895 cost $1.994, in 1907 they cost $2.412, or an increase of 20.6%. Even the full time weekly earnings of the employee show an increase of 24.9% for this period.

So far we have been considering as the wage earner only the day laborer, and we have seen that it is largely to be attributed to his organizations that he has been able to force wages to keep pace.
and even to distance general prices in this period of uniform advance under depreciation. The almost universality of the labor union's scope, and the strength which they have secured through centralization, has done more than merely benefit the nominal members. 

Workmen, whether in trades, have developed organizations or whether too scattered to participate actively in the union, are aided indirectly in keeping wages up, so that this artificial force may be said to affect the majority of wage earners proper. It is the smaller class of salaried employees who are likely to suffer most in a period of rising prices. Unfortunately, reliable statistics are not obtainable as to the course which such salaries have taken as a whole during the last sixteen years. But the means which workers have at hand to combat the forces of depreciation are fewer and more scattered. They have not the advantage of numbers and control over the supply which aids so much in bringing success to organized labor, and they are therefore in much the same situation as was the day laborer before he forced himself to be recognized as one of the parties to the fixing of the wage. Their real income under rising prices must, therefore, be a steadily falling one, and must continue to be so until they either find it possible to strengthen their position as bargainers, or until the natural trend of events brings a return to falling prices.

To return to a consideration of the real wage earner, it may be said that depreciation will hardly work him injury in the long run. His position in any economic system is at all times a very ne-
cessary one, and under the present system it has become a very
strong one. When the reversal comes in prices, as it surely will,
because the causes which are keeping them high are far from strong
enough to maintain the present acceleration, nominal wages will also
fall, if experience of the past is a safe criterion. But wages have
always followed such changes in general prices slowly, and added to
this fact at the present time is the strength of the united wage
earners, and the further force of a precedent of several years of
high wages. It is interesting to note that nominal wage prices are
greater obstacles for the minds of either employees or employers to
surmount than are real wages. An advance in nominal wages, in the
minds of the capitalist class, seems a more important concession
than to grant such increase by reduced cost of supplies to the wage
receivers. A reduction of nominal wages, on the other hand, meets
with more opposition and dissatisfaction on the part of the workmen
than does an increase in the cost of living. The real, ultimate re-
sult is not the idea which appeals the most strongly. Neither side
looks to the bottom of things, and for this reason, a precedent of
several years of high nominal wages will furnish the basis for even
greater opposition to the reduction of wages, when the reversal fi-
nally comes.

As yet I have said nothing of another very important direction
in which the laboring man is affected by depreciation—the condi-
tions surrounding the investment of his savings. If the signs of

1. See Chapter I.
the times are a fair basis for judgment, the laboring classes are
coming an important factor in the loaning of funds, through
the instrumentality of the savings banks, and building and loan as-
sociations. The loaning class is not, by any means, wholly identi-
fied with the capitalist class, and any discussion of the condition
of the laborer under gold depreciation must necessarily include a
review of the changes which have occurred, and are likely to occur
in the rate of interest on those kinds of investments peculiar to
savings banks. The subject is so closely allied, however, to that
of the fluctuations in the rate of interest in general, that it will
be omitted in this connection, and included in the next chapter.

To sum up: Changes in the supply of money have always been
accompanied by tendencies on the part of wages to follow prices in
their upward or downward movement. Wages, however, change more slow-
ly, and in this period of rising prices, we should expect to see
them rising also, but lagging behind prices in extent. But a new
force, organized labor, has entered the field, and has forced em-
ployers of labor to be more prompt in keeping up the real wage by
increasing the nominal wage, and to recognize that the laborer has
a right to be consulted in fixing the price of labor. The effect of
an increased gold supply itself causes wages to rise almost imme-
diately in those industries which produce for common consumption,
and the rise spreads more slowly over the whole field of labor. When
the reversal comes in the price level, wages will be slow to follow.
It does not seem that rising prices have worked material injury to
the laborer, nor is it probable that they will. It seems, rather, that aided by his own initiative and insistence, these years of rising prices are bringing to him distinct gain in well-being.
CHAPTER IV.

DEPRECIATION AND THE RATE OF INTEREST.

The problem of interest in its relation to a regime of rising prices and depreciation in the purchasing power of the dollar, obviously concerns itself with the rate of interest primarily, rather than with interest and interest taking as distinct and separate concepts. The whole question of whether, in such a period, the lender will be able to force the economic situation to maintain the return to him equal to that which he has received before, is answered by the movement in interest rates for the period, and by the extent of such change. Nevertheless, some of the important conditions which affect changes in interest rates, the inertia of the ordinary business mind, and the remnants of prejudice which still exist in modern business and especially in the business of money lending, are largely questions of interest in general rather than of rates, and to properly explain such conditions, the subject of interest rates cannot be altogether adhered to.

The commonly accepted notion of the movement of interest rates under a heavy supply of gold is that such gold, by swelling the bank reserves, will cause rates for money to fall. This view is short-sighted and looks at immediate rather than at ultimate results. The first instinct of a banker, on finding his reserves above the requir.
ed limit is, to be sure, to increase his profits by additional loans and a more extended discount of commercial paper. To do this, it is usually necessary to lower the rate on short time loans, for it is in such that the commercial banker is interested. But such an effect is only temporary. Those who see only this side of the question neglect to look at the secondary but no less certain and important result of increased reserves, namely, the stimulated demand for money at the temporarily lowered rate, and the consequent encouragement to productive enterprise. Increased gold supply stimulates production and therefore the demand for loans, for in our present industrial system, the two go hand in hand. It would be hard, indeed, to conceive of business as we know it as carried on exclusively upon the basis of actual property owned by the undertaker. We do business on borrowed capital.

If we look farther into the subject than the mere surface, it is evident that a larger gold output will cause a gradually rising rate of interest on loans. If this is the true view of the situation, we should expect to find the years of high prices in the past, and especially those years of high prices resulting chiefly from a heavy output of gold, to be accompanied by high rates of interest, and the years of low prices, by low interest rates. The following table, compiled by Professor Irving Fisher, serves to throw a great deal of light on this point, and to destroy the theory of low interest with much money.

1. See Chapter III, above.
Market Rates of Interest in Relation to High and Low Prices.

<table>
<thead>
<tr>
<th>Year</th>
<th>London, High Prices</th>
<th>London, Low Prices</th>
<th>New York, High Prices</th>
<th>New York, Low Prices</th>
<th>Berlin, High Prices</th>
<th>Berlin, Low Prices</th>
<th>Paris, High Prices</th>
<th>Paris, Low Prices</th>
<th>Calcutta, High Prices</th>
<th>Calcutta, Low Prices</th>
<th>Tokyo, High Prices</th>
<th>Tokyo, Low Prices</th>
<th>Shanghai, High Prices</th>
<th>Shanghai, Low Prices</th>
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<td>1892</td>
<td>1893</td>
</tr>
</tbody>
</table>

|      |                    | 3.8 4.4 3.6 5.4 5.1 3.7 3.0 | 3.2 3.2 2.6 3.0 2.6 2.5 2.5 | 9.1 7.4 7.0 5.3 | 9.1 6.7 5.1 5.1 | 4.6 5.7 3.3 | 3.4 5.2 2.7 | 4.1 2.6 | 2.4 2.6 | 6.2 5.4 | 5.6 6.2 | 12.3 10.1 | 12.0 10.1 | 6.0 | 5.7 (1) |

As Professor Fisher has pointed out, seventeen of the instances given show higher rates of interest in the periods of high prices, one shows the opposite effect, and three give no difference. If we follow the table further, and compare with it the table of general prices given on pages 28 and 29, still further evidence is to be found of the truth of the theory that rising prices and rising interest rates go hand in hand. The average of the Sauerbeck index numbers for the years 1852-61 inclusive is 97.8; for the years 1882-91, it is 73.5. The Economist's average fell from 2.456 to 2.207 over

the same length of time. During this period, the London high interest rate fell 5.4% to 3%, the New York rate fell from 9.1% to 5.3%, while other sections of the world testify similarly.

The first effect of over-supply of loanable funds is soon lost in the real effect of increased demand. Yet in this sure and certain behavior of the rates of interest, it does not follow that the rise will be prompt enough or extensive enough to insure the lender of funds against loss. The reverse is most often the case, and in this fact lies the essence of the question of the effect of depreciation upon interest. For instance, the owner of $1,000, not wishing or not being able to use it to advantage in productive enterprise, loans it to another at a price which is based, theoretically, upon the amount which can be earned from the employment of the $1,000 productively, less the profit of the entrepreneur, upon the supply of such funds, and upon the risk attending their use. Suppose that this price is $50 for a year, and that during the year general prices have gone up due to depreciation in the purchasing power of the gold dollar, so that the $1,000 which is returned at the end of the year will buy only as much as $980 would have bought at the beginning of the year. The lender of capital has really received, then, $30 or 3% for his funds. On the other hand, let us suppose that the borrower invested the $1,000 in merchandise, and by his sales and reinvestments, has reaped the advantages of the rising market. He makes, besides his normal profit of handling, an additional profit due to the fact that his goods have, of themselves, risen in
price. This additional profit is, obviously, at the expense of the lender. How long he will be able to continue this operation will depend, in a large measure, on the foresight of the creditor. When the lenders of money insist upon higher nominal rates to cover the loss which they suffer in real rates, the entrepreneur will return more to him, up to the point of normal profit as a limit. There is, to be sure, still a chance for the lender to turn his capital to production himself, and such an opportunity does have the effect of raising interest rates. But this is not an important consideration. There are, however, several reasons why the loaning class will not, at the outset of rising prices, either see that they are securing a much smaller return than the face of their notes indicate, or make much effort to force their real income to equal their present nominal income.

In the first place, the complexion of the loaning and the borrowing public has changed in a most important degree since the days of Shylock, when the usurer was generally a wealthy miser or trader. Today it is the wealthy classes who are the borrowers, and the great mass of laborers and fairly comfortable people who are the lenders. With this change, however, there has not been preserved the old ability of the money lender to determine the rates. The lenders of money today have neither the ability nor the opportunity to know business conditions as do the borrowers. The latter figure the situation closely, and are able to determine almost exactly the interest they can afford to pay, and their profits for each point to
which they can force the rate below this limit. It is merely a ques-
tion of ability in discounting the future, and the advantage mostly lies
with the borrower.

It must not happen that, in looking at this side of the business of money lending, we forget or omit to take into account the fact that interest on short time loans is determined, in the first instance, in the New York money market, where the immediate loaning class may not justly be accused of inexperience in bargaining, or of ignorance of money conditions. Yet short time bank loans, even in the commercial centers, are largely matters of local determination, varying widely from day to day, and, it must be remembered, governed in a large measure by conditions in the interior, yet maintaining over long periods a general movement regulated by the conditions just described. It is the great mass of small lenders, savings bank and loan associations depositors, who really are the lending public. No more striking proof of this could be given than the fact that, in 1908, 26% of the bonds and stock of our chief railroad and industrial concerns were held by investors of 100 shares or less, as against 15% in 1895. The rate of interest, in the final analysis, rests with the great moderately well-to-do class.

In the next place, there is the natural inertia of interest rates which must be reckoned with as helping to keep the lender from receiving his proper real income. Surviving, it may be, from the times when interest taking was regarded as immoral, there seems still to exist an unwillingness on the part of the business public to
permit high nominal rates. The preservation of an unbending rate of
discount for banks is regarded as a sign of commercial solidity.
This psychological phenomenon is responsible for much of the harm
which depreciation works to the lender, and, indeed, it may be said
to act in much the same way as does the persistence with which the
laborer looks at nominal rather than real wages.

If this analysis of conditions is sound, it follows that, at
a time when the creditor must insist upon gradually rising rates of
interest if he would preserve the real rates of return, the lending
power of the country is in the hands of a class of people unequipped
for the task. We have, on the one side, interest rates tending up-
ward, due to the stimulate d demand which accompanies heavy increases
of the money capital of the world. The undertaker can afford to pay
higher rates because he is doing business in a rising market, but
he will not do so unless he is forced. On the other hand, we have
the lenders a body too weak to compel the advance, and too short-
sighted to discount future developments as sharply as does the bor-
rower. The result is a rise in interest rates, indeed, but a rise
slower than the rise of general prices, and so, under such condi-
tions, the creditor is the initial loser.

But if my interpretation of existing monetary conditions has
been correct, our final concern has to do with a permanently higher
price level rather than with a continually rising one. No one can
say how soon the reversal will come. It almost seemed that prices
had received a permanent set-back in the crisis of 1907, but the re-
covery has been both fast and certain. Yet the cost of gold production will eventually make itself felt as an irresistible barrier to continually rising prices, and we shall have come to a more or less stationary higher price level. This is a different matter, and what has been said of interest rates under rising prices does not entirely apply to permanently high prices.

The fundamental thing to keep in mind in considering a condition of permanently high prices, as in any other economic consideration, is that a price is nothing more nor less than a ratio, and a higher price level means simply a change in this ratio. The payment of interest at any time is simply a payment in kind, and is not paid for the use of money, but of capital. Let us suppose an isolated community with a combined capital of $1,000, which is automatically doubled over night, each person receiving as much as he had before. The ratio between the money and the exchangeable goods of the community will have also changed. But the lender or borrower of money will not be moved to change the rate of interest on loans because such interest rate is a ratio. The use of the permanently depreciated dollar is worth the same fraction of that dollar for productive purposes as it was the previous day. Both the $50 which pays the interest and the $1,000 which is the principal have lost in purchasing power, but this loss has been in the same relative degree.

While such a result is undoubtedly certain to come from a permanently higher level of prices, it is still to be considered how soon the adjustment will take place, and what effects it will have
on the borrower and on the lender.

There seems to be no indication at the present time that the lending class of people will be able to better itself in the matter of bargaining for rates, or in forecasting the future. More and more of such people are each day becoming lenders. For this reason we may expect interest rates to come to a standstill as soon or shortly after prices have ceased to rise. By that time the rising market will have ceased to operate unfavorably on the lender by cutting down his real income. If such should be the case, the lender of money is destined to be the loser in this period of depreciation.

The rise in rates is slow to make its appearance and quick to stop in its upward tendency, when market conditions make this possible. There is no great lenders' organization, as was noted in the case of the wages of labor, which will help to force interest rates up, and resist any influence to reduce them after they are so raised. The lender stands to lose both in real and in nominal interest while prices continue to rise, and also after they have attained a permanently higher level.
CHAPTER V.

DEPRECIATION AND INVESTMENTS.

We now come to what is, perhaps, the question of most practical importance to the greatest number of people, that of the effect of the great increase in the gold supply on investment values. As I have said before, greater and greater numbers of our people are becoming investors, and hence are in the capitalist class as far as placing their surplus money is concerned. Changes in the price level at the most are never sudden, abrupt, changes, and it is because of this that the average investor fails to take proper account of them in calculating his return. But however subtle the change is, it nevertheless is asserting a great influence upon the values of investment securities.

There are widely varying fields of investment, and each has particular clientele. Real estate has usually been considered the most attractive and available place for the investor of small means to put his money, and there is certainly no form of investment more naturally fitted to withstand the bad effects of a rising price level. Yet the small investor, as well as the financier, has of late years been drawn into the field of stocks and bonds in his search for safe and profitable opportunities for investment.

As between stocks and bonds, the latter, being a prior lien on
the property of the issuing company, and usually secured by the pledge of other securities or by a trust mortgage, are regarded as the safest form in which to put one's money. In a period of stationary or falling prices, such reasoning is undoubtedly sound. But when prices are rising and seem likely to so continue for some time at least, the worth of bond investments is not so apparent. In the first place, during a period of rising prices, the payment of an unvarying interest rate means a slowly falling real rate as measured by the purchasing power of the interest money returned. Extended over the much longer period which must elapse before the principal is due, it is perfectly clear that the purchaser of the bond will receive much less in real return than is indicated on the face.

There is another why bonds are not always the gilt-edged form of investment which they are advertised to be. As the rate of interest on loans rises with the increase in general prices, the prices of bonds now on the market must fall, because they do not promise the return which it will later be possible to realize. For instance, the convertible 4½% bonds of the American Telephone and Telegraph Company, which are now selling at about 105, representing the market rate on a"gilt-edge" long term bond, may quite probably be selling ten points lower when rates of general interest have advanced by even 1%, and the market rates of such bonds be consequently lessened. The long term bond is usually given the preference by investors, be-

it obviates the necessity of reinvesting within a few years. While such an argument is undoubtedly sound if the bond is purchased in a
very dull market, the short time bond is almost unquestionably a
better investment at the present time, because of the fact that it
will mature early, so that the principal may be used to take advan-
tage of the rise in interest rates.

The stock of companies and corporations is usually regarded
with less favor, especially by those investors who have not had much
experience as such. Capital stock may be divided into two classes
for our present discussion—1, railway, and 2, industrial stock, and
each of these into common and preferred stock. Much of the argument
against bonds as investments may be urged against the buying of reg-
ular preferred stock. The return each year is a definite number of
dollars, and hence, as prices rise, is a continually decreasing
amount of purchasing power. This is offset, to be sure, by the rise
in the value of the property owned by the corporation, which, of
course, reflects a higher value upon each share of stock. Yet hold-
ers of preferred stock are likely to be adversely affected by the
depreciation of gold.

If now, before proceeding to a discussion of the merits of
common stock, we return to contrast railways and industrials, we
shall find the latter, generally speaking, better calculated to pre-
serve and increase the value which the investor puts into it. Both
Both railways and industrials pay dividends, if at all, out of the
sale of their commodities, whether such be transportation or consum-
able goods. There expenses of operation and maintenance will necess-
arily rise as prices, wages, and interest rise, and their ability to
maintain or increase their dividends must depend upon their ability to maintain or increase the price of their product. It is upon this pivotal point that the whole question of their comparative values turns. Railway rates are largely a matter of statutory limitation, and instead of being allowed to be raised as prices advanced, rates have been held down, and even arbitrarily lowered in many of the states. The result is that, at a time when the road has its operating and renewal expenses increased, its source of revenue is being restricted or lowered, and the value of such stock must be affected in the same degree that dividends are cut down. The same thing may be said of those public service corporations in cities, whose franchises designate fixed charges for service.

The redeeming feature of railway and public service corporation stock for investment is in the fact that such corporations are usually the owners of large amounts of real and personal property which will share in the general appreciation, and so increase the real value of the stock. But there is a class of investments which contains this advantage without having the disadvantage of restrictions put upon the selling price of its commodities. This is the great class of industrial stocks, comprising manufacturing and refining companies, and those public service corporations which do not operate under restrictive franchises. As their expenses increase, the prices of their products rise, and the effect of rising prices is ordinarily only to increase the value of the stock, by raising the value of the company's permanent property.
The common stock holder of such companies has a manifest advantage in that, as the products of the enterprise sell for more dollars, the increased profits will be returned to him in the shape of a higher nominal dividend, rather than to the preferred stockholder, who will continue to receive a depreciating dollar, and coupled to this is the advantage just mentioned in reference to both railways and industries, of appreciation of their property in hand. If such reasoning is correct, the common stock of industrial and manufacturing concerns, care being taken to look carefully at the individual strength in each case, is, in the long run, the most desirable commercial paper for the investor to buy.

Moreover, as bonds yield, in the long run, a lessening in the real return to the investor or creditor, so do they yield a corresponding advantage to the debtor. The latter pays back at maturity a dollar which represents a much smaller part of his product than did the dollar which he borrowed. What the investor loses in real income and real return of capital, the borrowing corporation gains. So it is that the investor in common stock, if he selects a company which foresees and takes advantage of this opportunity, has a still further chance and prospect for gain. Other things being equal, the company which bonds itself to the full extent of safety, will profit most largely in a period of rising prices, and hence the holders of common stock in such companies will benefit.

To come back to that form of investment which is still in greatest favor among the great class of small investors, that of
real estate, it is clear that much that has been said in favor of investments in the common stock of industrials may as justly be said of wise real estate investments. The advance in general prices, including the prices of grains, cereals, and the like, is almost immediately reflected to the land which produces the consumable goods, and is probably as much responsible for increases in land values in many localities as is increase of population, or any one of the many other causes which contribute. The price per acre has merely changed to maintain the proper capitalized value of the product. For example, in a great measure the high values which Illinois farms have attained in the last few years is directly attributable to the rise in the general price level, and to the rise in the price of farm products in particular. So in such a period of depreciation as we are now experiencing, well judged investments in real estate are more than likely to yield an increasing amount of annual revenue, and to show higher values as long as prices continue to rise. A reversal in prices, furthermore, will not soon show itself in land prices, because of the comparative slowness with which such prices respond to changes in general prices. The permanently higher price level to which we seem to be coming will deal favorably with the owner of good real estate. This, however, may not properly be said of real estate mortgages, which rather resemble bonds in this connection.

Those investments, then, which are most suitable for a period of rising prices are the common stock of those well managed concerns, the prices of whose products are not restricted by law, and, second-
ly, well located fertile real estate. In the first class are included industrial and manufacturing concerns, public service corporations such as the long distance telephone, telegraph, and cable companies, whose franchises do not include restrictions as to rates, and corporations which own a great deal of valuable real property. Companies whose charges are restricted by law, other things being equal, are destined to find their real income lessening as their expenses increase. Lastly, investors will find greater returns from the stock of those concerns which realize the possibilities which a rising price level offers to a heavily bonded organization.

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The whole question of the effects of a great gold supply upon the commercial activities of the world is decidedly elusive at the best, and no attempt at a forecast of what the future has in store for us has been made. How long we shall continue to receive gold from the mines in such ever increasing amounts, and whether the price level will continue to rise with it, are questions which can only be answered after we have passed through the period. It is perfectly evident that prices cannot continue to rise indefinitely without necessitating a change from a standard which would cease to possess the qualifications required of it. Such considerations as these have led many able minds to conceive of a time in the near future, possibly in our own generation, when we will discard gold and adopt a new standard of values more nearly meeting the changed conditions. This new standard, as it is usually thought of, will not
be of one commodity only, but a veritable multiple standard, in which prices will be expressed in a ratio to the combined or average value of many commodities, the latter to be determined by a public commission. Combined with the necessity of a change which the advocates think imminent, there is urged the greater degree of justice which such a standard might secure in the matter of deferred payments between debtor and creditor.

Practical or not as such a scheme might be, it is safe to say that the commercial and industrial world is, by no means, ready for it, nor does it seem likely that such an action will be at all necessary. The point of actual cost of mining gold, while at the present time it seems to be receding, owing to the opening of new mines and to the development of newer and cheaper methods of refining, yet cannot be indefinitely far away, and, as in the case of other commodities, it must finally be a barrier to the amount which is produced. When that point is reached, if sooner other causes have not turned the tide of prices, we shall have reached the highest point in the price level to which an excessive supply of gold can take us, and it seems highly improbable that this should not occur long before gold becomes worthless to us as a standard of value. The result will probably be a permanently higher but not a permanently rising price level.
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