

II. THE ECONOMIC MUDDLE

1. *Bankruptcy and Chaos*

WORLD economic affairs are in a muddle. Famine has gripped Central Europe since 1918; unemployment is rife in Japan, Argentina, Britain, and the United States; business depression is felt in all of the principal industrial countries; producer and consumer alike find the world's economic machinery sadly out of gear.

There have been innumerable predictions of "better times ahead," but among those who are closely connected with industry, there is serious concern over the future of the present economic system, while a formidable array of students and investigators agree with Bass and Moulton that: "It is not at all beyond the bounds of possibility that all of continental Europe might in the course of the next twenty-five years, or even sooner, go the way that Russia has already gone. It would not necessarily be through the instrumentality of Bolshevism; it might easily go in the Austrian way." ("America and the Balance Sheet of Europe." New York. Ronald Press. 1921. p. 138-9.)

The cause for such gloomy utterances may be found in those superficial indications of chaos such as the break-down of exchange and of international trade; the severe business depression; the waste and inefficiency of industry; the prevalence of unrest and sabotage, and the preparations for future wars.

Traditionally, the old institutions still exist and are cherished by those who believe that they will be rehabilitated and re-established. But as the months succeed one another and lengthen into years, without any evidence that "things will

right themselves as soon as the war is over," it becomes increasingly apparent, even to the conservative that the situation is far from what they had promised themselves it would be. Europe's day-to-day experience between 1919 and 1922 has convinced millions that some disaster impends. For the most part, however, they fail to realize that the "disaster" is already upon them.

The disorganization of the world's financial structure, following on the drains of the war and the debauches and exactions of the peace, has been the object of much comment, with the emphasis laid on the aspects rather than on the essential characteristics of the breakdown.

One of the basic assumptions of the present economic order is that promises to pay must be redeemed at par. Failing in this redemption, the promisor is declared bankrupt, and beyond the pale of reputable business society.

During the past eight years, most of the leading countries of Europe have become bankrupt. Before the World-War, the sixteen principal belligerents had total debts of 28,660 millions of dollars, with a total note circulation of 5,000 millions, making a total of promises to pay amounting to something more than 33 billions of dollars. When the Treaty of Paris was signed, these sixteen countries reported debts of 171,633 millions of dollars and paper money issues of 77,954 millions, making a total of promises to pay about eight times the volume of 1913. Since the signing of the Treaty, most of the European countries, belligerents and neutrals alike, have continued to pile up obligations. According to the estimates of O. P. Austin, of the National City Bank of New York, world indebtedness was 43 billions of dollars in 1913, 205 billions in 1918 and 400 billions in 1921. ("Our Eleven Billions," R. Mountsier. Seltzer. 1922. p. 43.) A point has now been reached where the French, Russian, Italian, German, Austrian and Hungarian debts are equal to at least half of the total estimated national wealth.

When it is remembered that most of this wealth is in private hands, and heavily encumbered with private mortgages; that the cities have issued enormous numbers of bonds against the same wealth, and that even though the wealth were in public hands it could not be liquidated for anything like its estimated value, it must be apparent that the capitalist world—particularly that part lying in Central Europe—has put itself into a position where its governments cannot meet their promises to pay.

Nor is this the worst. The war experience taught European government officials that it was possible to make money and pay debts with the aid of printing presses. The rapid increase in prices, and the unwillingness of the owning classes to pay for the war by means of a capital levy, placed the governments in a position where the ordinary expenses, plus the costs of the war, the interest on the war bonds, the costs of reparations and other extraordinary expenses amounted to far more than the total government revenue. As lately as 1920, all of the European belligerents, with the exception of Great Britain, all of the European neutrals, except Sweden, and all of the other principal countries of the world except Peru and the United States, reported expenditures in excess of receipts. The deficit for Austria amounted to 38 per cent of its expenditures. In other principal countries the ratio of deficit to expenditure was:

Belgium	69	per cent
France	57	“ “
Germany	46	“ “
Italy	21	“ “
Japan	17	“ “

(“Our Eleven Billions,” p. 40-41).

These events led inevitably to a demoralization of the foreign exchange market, which reflects the measure of confidence felt by the business men of one community in the

promises to pay made by the government of another community. The exchange values of the non-warring countries remained generally near to par during the entire war and post war period. Japanese exchange fluctuated very little; British pounds, which up to the time of the war were recognized the world over as the standard of value, fell to about three fifths of their par value as expressed in dollars; the French franc and the Italian lira fell to a quarter of their par values, while the Russian ruble, the German mark, the Austrian and the Polish crowns fell to less than one-tenth of one per cent of par. In addition to the serious depreciation of these various currencies, their values fluctuated from day to day and hour to hour, making business transactions difficult or impossible.

Coupled with the disorganization of exchange has been the economic depression which, beginning in March, 1920, spread like a tidal wave, bringing disaster and hardship to workers, farmers and business men. With abundant crops, with industries united into great combinations, with the banks more efficiently organized than ever before in modern times, there should have been no crisis according to the accepted economic philosophy, or, if there was a temporary set-back following the strain of the war, it should have been a regulated panic. But despite the predictions the depression came, and proved to be one of the most severe that the modern world has experienced. The thoughtful man noting these facts, and then learning that, beginning with the hard times of 1814, there have been seventeen of these breakdowns in the economic machinery of the United States, with corresponding derangements in France, Britain, Germany and the other industrial countries; and learning further that there is a tendency for such catastrophes to become more, rather than less severe, begins to wonder whether the difficulty is not very much more deep-seated than many public men would have him believe. Even the most stalwart supporters of the present

order must agree that the system does not function smoothly. There are many bumps, jars and hitches, and considerable friction.

Another evidence of economic chaos is furnished by the extent of industrial waste. Studies in industrial efficiency have led recently to the publication of a number of reports, the most ambitious of which, "Waste in Industry," issued by the Committee on the Elimination of Waste in Industry of the Federated Engineering Societies of the United States, describes waste under four aspects:

1. Low production caused by faulty management of materials, plant, equipment and men.
2. Interrupted production, caused by idle men, idle materials, idle plant and idle equipment.
3. Restricted production, intentionally caused by owners, management or labor.
4. Lost production, caused by ill health, physical defects and industrial accidents. (Page 8.)

With these various kinds of waste in mind the committee made a survey of some of the leading industries in the United States, and drew up a table showing the percentage of waste found in each industry. The figures were as follows:

Men's Clothing Manufacturing	.63.78	per cent
Building Industry	53.00	" "
Printing	57.61	" "
Boot and Shoe Manufacturing	40.93	" "
Metal Trades	28.66	" "
Textile Manufacturing	49.20	" "

The bulk of the responsibility for this waste is placed on "management,"—the lowest percentage (50 per cent) in Textile Manufacturing, and the highest (81 per cent) in the Metal Trades. The remainder of the responsibility is shared by labor, with a minimum of 9 per cent in the Metal Trades and a maximum of 28 per cent in Printing, and by miscel-

laneous causes, with a minimum of 9 per cent in Men's Clothing and Printing and a maximum of 40 per cent in Textile Manufacturing. (Page 9.)

There are a number of angles from which this result may be viewed. Waste may be looked upon merely as the index of industrial inefficiency due to the failure of the industrial mechanism to adjust itself to the demands made upon it. In that case the remedy for the waste is superior adjustment of the present system to itself. On the other hand, if the waste is the result of friction generated within the system, there must be some change in the system before it can be eliminated. The latter explanation seems to tally with the facts more thoroughly than does the former. Certainly, the unrest, bitterness and general sabotage which are encountered throughout the industrial order would point to the conclusion that the economic system is generating its own condition of chaos.

Sabotage, or "go slow," is becoming the dominant note of the entire economic system. "Get the most you can out and put the least possible in," is the theory upon which both workers and owners are operating. There has been much comment upon the tendency of the workers to use the go slow tactics. The real withholding of productive effort, however, takes place among the owners and managers of industry.

Industrial leaders are well versed in the law of monopoly profit: "Minimum product at maximum price." The railroad men have rephrased the law thus: "All that the traffic will bear." Industry has been organized and capitalized and is now owned by a group whose interests lie, not in the extent of production, but in the volume of profit. When profit is no longer forthcoming, the owners practice the conscious withholding of efficiency. In accordance with this general policy the control of industry is shifting from the hands of engineers into the hands of financial experts "who are unremittingly engaged in a routine of acquisition, in which they habitually reach their ends by a shrewd restriction of output;

and yet they continue to be entrusted with the community industrial welfare, which calls for maximum production." ("The Engineers and the Price System," Thorstein Veblen. Huebsch. 1921. p. 40-41.) The recent cry of the American farmer: "Produce only what you need for your own keep," is a crude effort to imitate the successful tactics of the business world in limiting production to the volume that will yield the greatest possible profit to the owner.

War-menace constitutes another indication of the chaos existing in modern economic society. The purpose of economic activity is to produce wealth. The purpose of war is to destroy it. The two are therefore in direct antagonism; yet the greatest war machines are maintained by the greatest industrial nations. To reply that they have the big war machines because they can afford to pay for them, is no conclusive answer. The organizing of nations for war came into present-day society with the present industrial system. Industrial leaders have engaged in a great competitive struggle from which the final appeal was always the appeal to arms. Furthermore, one of the most profitable businesses has been that of making the munitions and supplies required for the prosecution of war. Nor is there wanting evidence that modern wars have been made for profits—that they have been "commercial wars," as President Wilson put it.

There is no longer any question but that the forces behind the world war were in the main economic. The war was fought by capitalist empires, for the furtherance of capitalist enterprises. The publication of the secret treaties entered into by the Allies in 1916 gives conclusive proof of the land grabbing character of the Allies' intentions. There can scarcely be any question of the existence of similar intentions on the side of the Central Empires. The forces that constituted the war menace in 1914 were the economic forces arising out of the competitive economic régime that dominated the European world at that time.

Since the ending of the war, these forces have been augmented rather than abated. To them there must be added the other element of danger that threatens to throw Europe again into turmoil. Soviet Russia is and for a time must remain a source of international bitterness among the great capitalist nations, while the struggle for the control of the Near East is fraught with consequences as momentous as was the pre-war German dream of a railroad from Berlin to Baghdad. Unrest in Egypt, India, Korea, and the other countries held in subjection by the power of the bayonet; the contest between Japan, Britain and the United States for the control of the Pacific and the exploitation of China; the unrest and revolution that are stirring in China; the keen intensity of the struggle for foreign markets and for such strategic resources as the supply of petroleum, are all suggestive of a situation resembling an open gasoline can surrounded by lighted matches. And to add the last, and the most realistic touch to the picture, there are a million more men under arms in Europe than there were in 1913, while the military and naval authorities in all of the leading countries are busy planning how and where the next war is to be fought. (See "The Next War," Will Erwin. Dutton, 1921; "The Coming War with America," John MacLean. British Socialist Party, 1920; "War in the Future," F. von Bernhardi. Berlin, 1920; "The Inevitable War between Japan and America," F. Wencker. Stuttgart, 1921; "Coal, Iron and War," E. C. Eckel. New York, Holt, 1920, etc.) Before the grass was green over the graves where lies the flower of Europe's manhood, leaders of the present order were busy with the blueprints of another carnage.

The facts speak for themselves. The existence of such chaos is a matter of every day comment and experience. Though its nature and its causes are little understood, there is no issue of more immediate concern to the western world than the intelligent solution of the vexing questions arising out of the production and distribution of wealth.

Until the Russian Revolution of 1917, the entire western world was so organized that one group or class owned the land, the machines and the productive devices with which other groups or classes worked in order to live. The establishment of this "capitalist" system between 1750 when it had its start in England, and 1860, when it secured a foothold in Japan, has raised certain questions of economic procedure which lie at the background of the economic problems which men are seeking to understand and to solve.

There is no necessity for an elaborate discussion of these problems, since they are at the moment quite generally under the dissecting knife of social students, reformers and revolutionaries. They may be divided into two main groups:—those which are localized in character and those which are world-wide in character. Perhaps the latter group might be called "worldized."

2. *Localized Problems*

There are a number of outstanding economic problems that affect locally, each community that has adopted the capitalist system. Among the most important of them are:

1. The relations between the job owner and the job taker.

These relations involve the question as to whether job control shall be vested in those who hold the property or in those who do the work. The issue is an old one, intensified to-day by the absentee ownership which stocks and bonds make possible, and aggravated by the presence of vast industrial establishments in which there are employed thousands of workers without the possibility of any direct contact between job owners and job takers.

2. The distribution of wealth and income.

Another old issue has returned to plague a society that makes it possible for some to enjoy "progress" while others must suffer from "poverty." Labor saving machinery has increased the quantity of the industrial product, but as

yet there has been no general effort to see that the advantages of this wealth production go to those who are in need of food, clothing and shelter. Indeed, under the present order, millions of those who work are called upon to accept a standard of living which represents less than physical health and social decency, while those who own the land and the machinery with which the wealth is produced are able to exact a rent or unearned income that keeps them permanently on easy street. This embittering contrast between the house of have and the house of want is leading to-day, as it has in any historical society, to division and conflict, for, as Madison wisely observed in the *Federalist*, "The most common and durable source of factions has been the various and unequal distribution of property."

3. The inter-relation of industries.

So long as there was a direct connection between a worker and the product which he turned out, economic life was simple. When, however, the coal dug in eastern Pennsylvania was used to heat houses in Minneapolis, while wheat grown in Dakota was milled in Duluth, made into crackers in Boston and sold all over New England, there arose the problem of the relation between mining, wheat raising, transport, manufacturing, and merchandising. Thus far the banker has acted as the go-between in holding this machinery together, but he labors under two important disqualifications: first, he does not represent anyone except himself and his fellow owners and is therefore not socially responsible for what he does; in the second place, like every other business man, he is out to make a profit rather than to render the community a service. Hence the structure of industrial society rests in chaotic dependence upon the ambitions and foibles of self-selected financiers.

4. Attempts at government control of industry.

The irritated people, incensed by repeated acts of economic tyranny, have turned to the political state, which has

been thought of as the guardian of popular rights in a democracy, and through regulatory legislation the appointment of commissions, and even through state competition they have sought to bring obstreperous business interests under the wing of state control. These efforts have generally failed: the business interests, through their control of the economic surplus, have dominated the commissions and have used the machinery of the political state as the instrument for further exploiting ventures; the police, the courts, the executive power, the military—all have been employed by the owners and exploiters against the workers. The issue between the empires of industry and the political state still remains one of the most vexing in the field of public life.

These problems of job control, of wealth and income distribution, of industrial inter-relations and of the relation between the state and industry are pressing for solution in every important centre of modern economic life. Each constitutes a disturbing element and contributes its mite to the aggregate of social instability and unrest that are racking the economic world.

3. *World Problems*

Aside from these problems, localized in character, though world-wide in their distribution, there are a number of other problems of a world character which also are factors in the disorganization of economic life. One of these world problems is the competitive struggle between economic groups for trade, markets, resources and investment opportunities; another is, the excessive concentration of the world's wealth in a few centres.

4. *Competition for Economic Advantage*

The issue of non-redeemable promises to pay has crippled the world's credit machinery. The competition for economic advantage has played havoc with the world's social stability.

Theoretically the coffee grower of Brazil and the agricultural machine manufacturer of Illinois produce and exchange those things that they can turn out most advantageously. Practically the resources of the world are monopolized by powerful financial interests each striving to destroy its rivals, each seeking its own enrichment, and each busy reinvesting the surplus wealth which piles up as the result of exploitation at home and abroad.

Competition for economic advantage has followed the line of greatest profit. The present age inherited from the mediaeval economic world certain time-honored trade rivalries such as those which had existed between Rome, Carthage and Corinth in classic times, or between Holland, France and England in more modern days. These trade rivalries concern themselves with:

1. The transport of goods and people.
2. The financing of such transactions through bills of exchange, and the like.
3. The insuring of trading ventures.

The people which succeeded in obtaining the carrying trade quite generally secured the banking and insurance business, both of which until recent years, have been principally concerned with trading.

The trade of the middle ages was small in volume, and was carried on, for the most part, in valuable commodities, since the cost of transporting bulky, cheap articles was generally prohibitive. With the emergence of modern industry, and its production of large amounts of surplus commodities, important industrial groups like Britain and Germany which depended for their prosperity on their ability to find foreign markets for their surplus commodities, have been driven to a fierce struggle for these markets.

Latterly the effort to dispose of surplus has taken a new form—the investment of capital in foreign enterprises. Instead of trying to sell an electrical plant to the city of Buenos

Aires, a German business adventurer (enterpriser) secures a contract to build the plant, buys the equipment from the German General Electric Company, takes the bonds of the City of Buenos Aires in payment for the plant, and finances the transaction by selling the bonds to a German banking syndicate. Through this process, the German (or Belgian, or British) business world invests its funds in "undeveloped" countries.

At the outbreak of the World War, foreign investment had become a science, with the British leading all of the investing nations. C. K. Hobson, in his book, "The Export of Capital," and in a later article in the "Annals of the American Academy" for November, 1916, throws some important side-lights on British foreign investments. He notes that for some years preceding the war, Britain had never invested less than 500 millions of dollars per year in foreign countries and that just before the outbreak of the war, the annual export of capital had reached a total of a billion dollars per year. In 1913 the British foreign investments were approximately 20 billions of dollars, distributed geographically in a most significant fashion. The largest investment (3,750 millions of dollars) was in the United States; then came Canada with 2,500 millions; following were India, 1,800 millions, South Africa, the same amount, Australia, 1,500 millions, and Argentina a like sum. The British investments in Belgium, France, Germany and Austria were negligible. Thus it was in the new and undeveloped countries, not in the old and developed ones that Britain sought her investment opportunities. In their efforts to play at this great game of imperialism, and to win their share of profitable business, Germany, France, Japan, Belgium and the United States were dogging the British heels.

Each of the important producing countries must provide itself with the essential raw materials—coal, iron, copper, cotton, rubber, wheat, etc., upon which the continuance of its

industrial life depends. Consequently each of these countries busies itself to secure the control of the largest possible reserves of the raw materials most needed by its own industries.

The case of petroleum is peculiarly instructive. When it became apparent, in the early years of the present century that oil burning ships, motor vehicles and air craft were bound to play a determining part in the economic life of the immediate future, various interests such as the Shell Transport, Royal Dutch and the Standard Oil, with the open or tacit backing of their respective state departments, entered on a campaign to secure the world's supply of petroleum. In Mexico, Central America, the Near East, Russia and the United States this struggle has been waged, and it still continues to be one of the most active contests for economic power that has been fought in recent times.

Petroleum-hunger is only one of the many economic factors that drive modern nations. The efforts to control the coal and iron of Alsace and Lorraine, the Saar and the Ruhr undoubtedly played a leading rôle in making the War of 1914 and the Peace of 1919. The partition of Upper Silesia was based on the same contest for iron and coal. Wherever the coal veins or iron deposits are, there, likewise, are gathered together the representatives of industrial enterprise, which depends for its life upon iron and coal.

As the resources of the earth become better known, and their extent more definitely established, there is every reason to believe that, with the continuance of the present economic system, the necessity for exploiting them will become greater, and the attempts to dominate them will become more aggressive.

Whether the object of the contest be trade, markets, investment opportunities or resources, the result is the same—rivalry, antagonism, bitterness, hatred, conflict. Probably it is fair to say that these economic rivalries constitute the largest single force now operating to keep people apart and

to continue the economic desolation and chaos under which the world is suffering.

5. *Distribution of the World's Wealth*

There is another problem of world scope—the concentration of wealth in a very few countries. At the present moment the wealth of the world is distributed roughly as follows:

Great Britain	120	billions of dollars
France	100	“ “ “
United States	330	“ “ “
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Total	550	“ “ “
Germany	20	billions of dollars
Russia	40	“ “ “
Italy	25	“ “ “
Japan	40	“ “ “
Belgium	15	“ “ “
Argentina	25	“ “ “
Canada	25	“ “ “
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Total	190	“ “ “

Probably all of the other nations combined could not show a wealth total of more than 100 billions. Great Britain, France and the United States have just about 12 per cent of the population of the world, yet they probably hold somewhere in the neighborhood of two-thirds of the world's wealth. The United States alone, at the moment, has nearly half of the world's gold supply and more than a third of the world's wealth. Of course these wealth estimates are not to be accepted in detail, particularly in view of the wide fluctuations in the exchange rate. They serve, however, to give an idea of the relative wealth positions of the leading countries.

The present economic position of the United States in particular, is a perilous one. The estimated wealth of the United States is greater than that of the four richest nations of the world combined. Within a decade, the country has become the world's chief money lender, the world's principal mortgage holder, the world's richest treasure house. The results are inevitable. The United States will be an object of envy, jealousy, suspicion, cajolery and hatred in the eyes of those peoples who concern themselves with the present system of competition for economic supremacy. She holds the wealth and power that they desire and they cannot rest content until they secure it.

Past periods of civilization have witnessed the concentration of wealth and power in some great city, like Carthage, or in some isolated region, like Italy. All around were the "barbarians"—those who had less of the good things of life than were at the disposal of the citizens of the metropolis. Where two of these centres existed at the same time, they warred for supremacy until one or both were destroyed.

Before the war the centre of the world's economic power was Great Britain. To-day the economic centre has shifted to the United States, while Britain is still the world's greatest political power. The struggle between these two empires for the political suzerainty of the planet must continue until one is victorious, or until both have been reduced to impotence.

6. *The Livelihood Struggle*

Behind these struggles between various political and economic groups, there is a broader reality in the shape of a billion and three quarters of people, inhabiting the surface of the earth,—people of various races, religions, nationalities, who, with all of their differences, have this in common: that they are seeking life, striving to improve the opportunities for its enjoyment, yearning for its enrichment, and, despite

the innumerable disappointments which they have suffered in the past, willing to pay handsomely, in vast and patient effort for each tiny gain that they secure.

One of the chief concerns of these human multitudes is the struggle for livelihood—for the means of continuing physical existence and of gaining the surplus and leisure out of which grow the higher life satisfactions.

All men have certain simple economic needs—for food and shelter. Denied these, they perish. Given them, they are able to devote their remaining energies to one of the many lines of activity that men have developed.

What are these other wants of men, aside from the primitive needs for food and shelter? Most prominent is the desire for human companionship, friendship, love. Again, mankind has accumulated a vast store of knowledge, of philosophy, of imagery, of artistic expression. Love, truth and beauty sound an appeal that finds some answering echo in each life. The leisure and the culture of the world, in the immediate past, have been the heritage of a favored few: to-day they are the objectives of the many. Heretofore it has been the belief of the aristocrats that the best of life was none too good for them. To-day that idea has spread among the people. Dimly, inarticulately, they feel that the world's advantages are for them and for their children.

Before the cultural advantages of life may be enjoyed by the many, wealth must be produced in sufficient quantities to provide food and shelter. This provision of the economic necessities is not a far goal. Livelihood, when secured, does not make of man either a saint or an artist, but it is a necessary step in the pursuit of either goodness or beauty. The body must be fed before it will function, just as the engine must be fed with fuel before it will run. The provision of a supply of economic essentials is not the ultimate object of life, but until some such provision is made, life in its fullest terms is impossible.

7. *Guaranteeing Livelihood*

The millions who inhabit the earth have a direct and immediate interest in organizing economic life in such a way that the supply of economic goods is made regular and certain. This is the premise on which all constructive thinking about economics is necessarily founded.

How is this hope to be realized? What means are at hand to insure the ultimate success of these efforts to guarantee livelihood?

Nature has provided an ample supply of the resources out of which the economic necessities may be produced. These resources fall mainly into three general classes:

1. Climate, including those conditions of light, air, rainfall and temperature that make possible the maintenance of life in its many forms.
2. Fertility, including those qualities of the earth that are useful to man in the pursuit of his economic activities.
3. Power, including those forces of nature which man may harness and compel to do his bidding.

Climate, fertility and power are variously distributed over the earth. The heat near the equator and the cold of the arctic regions make any highly organized forms of economic life difficult. Consequently it is in the temperate zones that industrial civilizations have developed. The deposits of minerals and fuels are quite uneven. Take iron as an example. The available deposits of iron ore are concentrated mainly in Brazil, Cuba, the Appalachians and the Great Lake Basin, so that the Americas and particularly North America have far more than a proportionate share of the iron ore supply. Copper, coal and petroleum are distributed with even greater irregularity. Equally uneven is soil fertility. Beside a garden spot, like the Mississippi Valley, lies a great Colorado-Utah desert. Nature has provided those requisites upon which man must depend for his economic life. They are

scattered it is true, and with the present political barriers holding peoples apart, many of them are politically unavailable but, economically, they are an open door to the future.

Men have met with considerable success in availing themselves of nature's bounty, and of converting it into useful and pleasing forms. All of the tools, weapons, textiles, metals, wheels, machines, have been the result of human effort and ingenuity, spread over long periods of time, and gradually accumulated and concentrated. At last a day seems to have dawned when machinery, applied to nature's bounty, could produce the wealth necessary to support the world's existing population on a minimum standard of living. Certainly the energy and wealth which went into the five war years would have fed and clothed the people for that period.

8. *Distribution and the Social Revolution*

Men have succeeded in kindling fires, making wheels, separating the metal from the ore, harnessing electrical power and communicating their thoughts to one another and to their descendants, but they have not made themselves masters of those forces which work through fire and wheels. Men have met the immediate economic problem by devising methods for producing food, clothes and roof-trees, but they have been overwhelmed by the social implications of these productive forces. Before the problem of sharing the proceeds of their labor, they have stopped, and the whole economic progress of the race now stands like an engine stalled, awaiting some solution of the problems of distribution.

Through the ages various methods of making a living were inaugurated successively. Mediaeval Europe had worked out a combination of herding, agriculture, craft industry and trade that made a stable life for an agricultural village a practical possibility.

This period of economic stability—this golden age—was followed by a series of events that threw the fat into the fire.

First in England, and then in all of the important countries of Europe, the industrial revolution turned the simple grazing, farming, craft-industry life of the village topsy-turvy, by providing a new method of converting nature's bounty into goods and services calculated to meet the increasing needs and wants of mankind. So far-reaching was the change that it has compelled a reorganization of virtually all phases of social life, but for the present purpose, it has been felt chiefly in four fields: manufacturing, commerce, wealth-surplus and population.

The efficiency of the new manufacturing processes has provided a large surplus of goods that must be taken somewhere, exchanged for food and raw materials, which must, in turn, be brought to the producers of manufactured goods. In the course of these transactions, a generous share of the values produced goes, in the form of profit, to the owners of the industry, another considerable portion goes into reinvestment, thus swelling the volume of productive capital.

The increased wealth, the larger capital and the greater amount of surplus all make possible the maintenance of a larger population. Thus it has come about during the past century, that the production of goods, the transport of goods, and the population, have all been increasing at a rate unheard of during the previous thousand years.

The suddenness of these economic changes has swept the world away from its accustomed moorings, out upon an uncharted sea. Only yesterday the race was struggling to make a meagre living: to-day the centres of industry are glutted with bulging warehouses and equipped with idle machinery that will produce unheard of quantities of shoes and blankets and talking machine records, if the owners will but give the word to the workers who are eager to perform those services that yield them a living. Only yesterday the world was maintained by local production: to-day it depends upon transport and exchange. All of these changes in the

accustomed ways and acts of men have been brought about in the course of an economic revolution.

The tidal wave of the industrial revolution has not stopped with the economic world. No phase of life has been exempt from the power of its magic. The school, the church, the family, the home, the state, have all felt its transforming might. The aggregate of these changes is the profound social revolution that has been for some time, and that is at present tearing the fabric of the old society to tatters, while beneath its surface-chaos is forming the nucleus of a new social order.

9. *A New Order*

The results of profound changes such as those that are now occurring, must be chaos except in so far as the ingenuity and organizing capacity of man re-establishes order. The people in the world are in very much the position of a valley population suffering from a disastrous flood. Their houses and fruit-trees—the product of generations of labor—have been swept away. The valley is filled with debris. As the water recedes, the wreckage must first be picked up, then the whole population must fall to with a will and rebuild the community—put up houses, re-plant trees, re-make gardens, repair roads.

The social revolution has not swept everything away, but it has modified the form of social institutions, and some of them, such as the old time farm home, the individual workshop and the agricultural village have been obliterated in many localities. How shall the new society be rebuilt? Only as the old was built—by the expenditure of human effort and under the guidance of the best wisdom that the community can muster.

There are a number of points of view from which the present-day economic chaos may be regarded. The humanitarian feels pity for the suffering and hardship imposed upon multitudes of the world's population. The conservative

laments the alterations which are being made in the established order. The liberal regrets that the changes are occurring so rapidly that construction cannot keep pace with destruction. The radical sees, in these fundamental changes, the dawn of his millennium. The scientist and the engineer upon whose shoulders will rest the burden of rebuilding the new society, tighten their belts and turn to the mightiest task that men have ever faced.

The economic muddle in which the world now finds itself is one of many transition periods in the history of civilization,—a phase of the great revolution. Like any period of chaos, it is the seed-ground of the new order—the demolition which precedes construction.

Some day men may be wise enough and sufficiently well organized and equipped to demolish and construct at the same time. As yet no such stage has been reached. During the intervals of chaos which separate two periods of forward movement (the dark ages of the world, as they are sometimes called) the masses agonize and suffer, groping blindly and crying out for guidance. Such is the period in which the world now finds itself.

Out of this chaos, men must bring order; and to do this they must discover the foundations upon which the new order can be successfully built. This is the work of the engineers, the constructors of the new society.*

10. *The Basis of World Reconstruction*

Asiaties, Europeans, Africans, Americans, Australians—all people who follow the movement of events realize that the crisis confronting the capitalist world is a serious one. Informed men like J. M. Keynes and Frank Vanderlip believe

* "Engineering is the science of controlling the forces and of utilizing the materials of nature for the benefit of man, and the art of organizing and directing human activities in connection therewith." (Resolution of the Engineering and Allied Technical Societies in creating the Federated American Engineering Societies. "Waste in Industry" 1921, p. IV).

that the situation is perilous. While many persons see that something is wrong, and while some see what is wrong, there is a great diversity of opinion as to the remedies that should be adopted. What most of the writers fail to see, or at least to realize, is that economic organization is the basis—the only possible basis—for the reconstruction of the world.

The time has passed when political readjustments will meet the world situation. The events accompanying the industrial revolution have hammered the world into a closely knit economic whole, and until this fact is understood, and made the basis of world thought and world building, there can be no permanent solution of the world's problems.

The present chaos in world relations cannot be met and settled by war, legislation, diplomacy or any similar means. All of the steps in these fields imply some adjustment of political relationships, and it is the economic institutions rather than the political institutions of the world that are in need of constructive effort.

If a town is suffering from a break in the water-main, there are two things that may be done! The old pipe may be patched or a new pipe may be put in its place. It is sometimes possible for the engineers to patch the old main temporarily, while they are getting in a new one. The same situation confronts the people of the world. Their economic life is disorganized and chaotic. Shall it be reorganized along old lines, slightly modified in the light of experience, or shall it be built on fundamentally different lines?