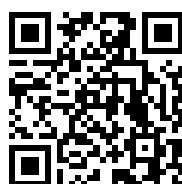

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THE ECONOMICS OF FREEDOM

VALUE

[CROSS-SECTION OF POTENTIALITIES IN A ZONE OF ORDER]

POTENTIALITIES

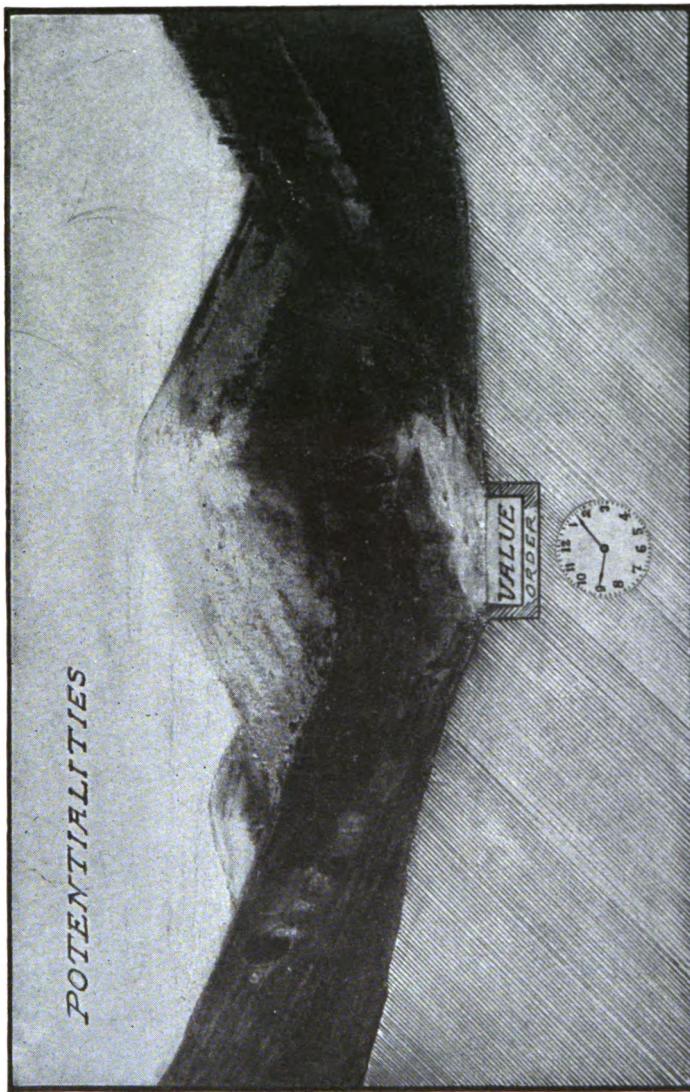


Diagram A

THE ECONOMICS OF FREEDOM

BY

DAVID ATKINS

Member of the American Institute of Mining and Metallurgical Engineers

BEING A CONTRIBUTION TO THE THEORY OF TAXATION,
VALUE AND CURRENCY, AS LOGICALLY MODIFIED BY THE
ADVENT OF DEMOCRACY, WHICH, HAVING ELECTED
TO LIBERATE HUMAN EFFORT AND TERMINATE
ARBITRARY APPORTIONMENT OF POWER AND
RESPONSIBILITY, MUST ENDEAVOR TO DE-
VISE A SYSTEM OF MEASUREMENT
BASED UPON CALCULABLE FACTORS,
IF THESE ARE AVAILABLE.



NEW YORK
DUFFIELD AND COMPANY
1924

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*To My Wife
who bore the brunt of it*

PREFACE

To those who are prepared to take a partially disguised dose of economic argument it is perhaps a kindness to say that Part II, *The Essentials of a Remedy*, may be read first, before concerning themselves with the groundwork of the theory, as stated more fully in Part I, upon which this tentative program is based. However, since the theory itself deals with the economics of freedom, and not the politico-economics of thwarted welfare, which men have tried so vainly to reconcile with good sense, it is not as much a recital of ritual as might be apprehended: it deals with freedom, not with output: with value not with goods.

If, in attempting to fit together a simple and logical structure, very little attention has been paid to a great deal of the available material so ably gathered by my predecessors, this is due to the self-imposed obligation of utilizing only what is measurable in some basic terms, upon the assumption that the science of economics is primarily concerned with measurement.

If, further, it seems presumptuous, uncharitable or irreverent to question the tireless activities of the political-economists who would so often hit the nail squarely upon the head—if only it had not moved—it should be apparent that whatever shadow of criticism there may be falls much more nearly on those who so dexterously move it. And yet this is only an appearance of censoriousness.

“No villain need be! . . .

“We are betray'd by what is false within.”

The writer is conscious of only one clear prejudice, and that lies, not against any individual or group, but against an attempt to measure by means of unmeasurable factors, since equity, justice, security, value—and freedom itself—are vain words until we devise an unimpairable measure.

Under democracy we enjoy the full political privileges of sovereign citizens; and if there is any blame to be appor-

PREFACE

tioned by us, it rests, beyond shadow of doubt, upon our own shoulders. To attempt to measure value without any consideration of the cost of overcoming resistance is a pathetic survival of bondage. And to sanction, as we do today, impenetrable international barriers to goods and services, while we grant to gold all the privileges of an ambassador—and boast of it—is to invite the world's most able men to deal in this dominating commodity. If these are wrongly reproached on any score, surely the most wrongful of reproaches would be to assert that they fail to utilize the most effective medium for their imperial operations.

There are only two explicit adjustments suggested. One is to make taxation scientific and impersonal—and then forget it. The other is to construct a basic and unimpairable measure of value and then employ it, not as a thing of value, but as an entirely unprejudiced means of recording justly the sensitive, critical and vital human appraisements of goods, services, facilities, culture and order which give them value.

In the last analysis there is only one adjustment suggested: this is to put the purely mechanical problems of taxation and currency deliberately under our feet, or, in other words, to disentangle from the necessary mechanism of our economic system, its dynamic value—which is individual freedom.

To venture into a field where the claims of the academicians now actually overlap would be rash, if it were not for very generous encouragement such as that held out by one of the most judicial of recent investigators:

“The misery and squalor that surround us, the dying fire of hope in many millions of European homes, the injurious luxury of some wealthy families, the terrible uncertainty overshadowing many families of the poor—these are evils too plain to be ignored. By the knowledge that our science seeks it is possible that they may be restrained. Out of the darkness light! To search for it is the task, to find it, perhaps, the prize, which the ‘dismal science of Political-Economy’ offers to those who face its discipline.”*

“Out of the darkness light!” Surely, if in striving to reach

**The Economics of Welfare*, p. vii, A. C. Pigou, M. A., Professor of Political Economy, Cambridge. Macmillan and Co., London, 1920.

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this light some annoyance is caused by breaking rank, it will be forgiven. No one seeks such a prize for himself.

In case any reader is sufficiently concerned to be critical, it should be stated that the following contribution to economic theory was commenced in 1916 and completed in 1923, so that it has had to reckon with periods of boom, depression and partial recovery. As a consequence, while the initial conviction is unaltered, namely, that the problem of economics is the measurement of the freedom, or value, which arises from effective human effort, nevertheless, the contemporary data has, unquestionably, been colored by the acuteness of the recent economic changes.

Owing to the pressure of other work, there have been fairly long intervals in the argument, and these, as far as the writer is concerned, have necessitated frequent returns to the starting-point. While this results in a certain amount of repetition, it may not be entirely disadvantageous, since the average reader of economics usually finds it even more difficult to give his sustained attention to the sequence of the logic than did the author.

In addition to these flaws, the writing itself has been accomplished under some difficulties: on river-boats in China; on inter-island steamers in the Philippines; under badly-patched mosquito nets in equatorial islands; on the decks of sailing vessels in the Sulu and Celebes Seas, with sharp interruptions when it was necessary to go about; on government-operated railroads in Australia (which stimulate thinking much more than writing); and in the smoking-rooms of many ocean liners, which, after all, are excellent laboratories, and may be earnestly recommended to any political-economist who is in danger of losing touch with actualities, since there is an opportunity of contact with exceedingly competent economic observers—diplomats, bankers, planters, merchants and engineers—who, day after day, on the long Pacific run, put forward most significant economic testimony, even while they protest that they know nothing of economics.

Just as the intervals in time have provided some highly-contrasting data to test the theory, so also have the long

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intervals in miles. To have seen the "fabricated captain" of a United States Shipping Board vessel permitting his sailors to recline in deck chairs and farm out the work of swabbing decks to native *muchachos* in the port of Cebu; to have seen markets for produce established in remote islands, the inhabitants of which practiced communism and were accustomed to be swept by famine, and to witness the development of a sense of property-rights and a prompt demand for barbed wire; to have seen the end of a century-long factional guild-war in China, and an immediate drop in the quality of the non-competitive output, following the practical establishment of a monopoly; to see at home, the American dairyman, as a producer of milk, cheerfully buying foreign oil-cake instead of American grain; and, as a manufacturer of butter, fighting bitterly against the importation of the oil expressed from this cake; and to have seen the American grain farmer, during the last few years, driven steadily into debt through indirect taxation, and hesitating over the cost of his pipe-tobacco;—all these things are valid economic data, which must be taken into consideration in the formulation of any rational economic theory.

From the impersonal standpoint of science, all economic logic, since the advent of representative government, has been vitiated by one elementary mathematical error: it has not yet been clearly realized that economic value has an essential inverse component.

It is, therefore, impossible to construct a scientific measure of value until this inverse component—the cost of overcoming resistance—can be mathematically included in our calculations.

If this contention is correct (and it would be sheer impudence to put it forward to any scientist other than an economist), then a host of so-called political complications can be removed from economics; and it is on this one contention that the following contribution to economic theory stands or falls.

San Francisco, April, 1923.

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INTRODUCTION

THE following essays are an attempt to draw a dividing line (upon paper, at any rate) between politics and economics, by which politics, as now practiced, is set aside for serious attention as a likely factor of friction, while economics is isolated as a logical science dealing, under democracy, with the measurement of liberated human effort. Such a divorce leaves the art of politics with all the advantages of a going-concern at the moment; and the science of economics is withdrawn so far from immediate possible application that some difficulty may be experienced in imagining any renewed relationship.

For democracy, politics, as a means of obtaining sectional advantage, should be a dead art. The essential policy of democracy is the protection of our reopened ways for the sake of individual freedom, and this policy must be maintained with a definite regard for dynamic law if it is to be of any general advantage. During the long and costly struggle for individual freedom the desperate maneuvering we have known as "politics" has been a reaction—induced and defensive—against arbitrary interference with the free functioning of the individual. The campaign started as a fight for general freedom as opposed to autocratic privilege; but the militantly disposed, after their habit, have not laid down their arms with victory, and they continue to parade, competing among themselves for place and advantage, much to the confusion of honest and hardworking citizens who were ready to make use of their liberty, if they had been permitted.

"Political-economy" was a thoroughly well-justified name for the baffling study of economic resultants impaired by irresponsible autocratic policies. Between the lines of old works on political-economy may be read implied strictures (which could not be made openly) upon autocratic manipulation; and the friendly relationship of the political-economist to the Court was seriously affected if the criticism were sufficiently obvious to be comprehended. This was a very bad start for the literary

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technique of economics. Political-economy recognized that we were stiff with bandages and bore much the same relation to economics that an advertisement for embrocation bears to anatomy. The political-economist, however, is fully warranted, today, in turning his attention to the international field where he may study the effect of political motives upon the logical consequences of economic law, since, internationally, arbitrary barriers to free flow are still sanctioned. As long as we and other nations are interested in economic preserves, so long will it be necessary to have well-armed gamekeepers and so long will it be impossible to measure values by the logical flow of unimpeded human effort in a measurable zone of order.

Within the boundaries of democracy, what is now called the "Science of Economics," owing to the coercive (or purely short-sighted) policies of multitudinous state-bureaus, is again political-economy and is dismal because it is hopelessly incoherent. Ely recognizes this renewed misalliance with a note which is somewhere between acquiescence and satisfaction, when he states :¹ "But in treating economics in connection with ethics and politics, the older writers were merely following an instinctive method of dealing with economic truths to which in a certain degree later writers are returning." It may seem a little unkind to mention it, but there can be nothing either ethical or politic about a science.

The rational science of economics—the measuring of the value of liberated human effort within definite limits, and the consequent identification of costly friction—has not, apparently, been presented, or conceived, as a whole. Much of the available data has been ably assembled; but if there has been any attempt to show the possibility of correlating such data, as in any other science dealing with the measurement of energy, it is difficult to discover, or to discover any trace of its influence.

Why, unless there is some basic confusion in the so-called science of economics, does everyone but a professional economist shy from it, unless it is that thinking men instinctively

¹ "Outlines of Economics," Richard T. Ely. 3rd Edition, 1918, p. 741.
The Macmillan Co., New York.

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insist on logical structure, or unvarying foundations capable of supporting such a structure? This general lack of interest is not exhibited in other sciences; but wage-earners, farmers, traders, manufacturers and bankers, who must all suffer sooner or later the consequences of poor economic engineering, still dodge the professional economist, likable as he may be, as though he were a dogmatic theologian.

Let us take the most urgent problems to which the science of economics should be applied, namely, those of *taxation*, the basic insurance of order; of *value*, the consequence of effort within a region of order; and of *currency*, the measure of this value. We now have taxation based upon need, effort and ability, in intricate and arbitrary ratios; while value is tied tightly, and currency loosely, to gold, first, because gold was originally regarded as more stable in quantity than the good-faith of some irresponsible autocrat, and, second, because gold is even more malleable than we dreamed and has, under the political exigencies of democracy, a capacity for being beaten very thin and used for gilding in times of scarcity. As against these deplorable survivals of political bondage, we have the general knowledge that taxation is the pro rata responsibility of dispersed sovereignty for order: that order is a prerequisite of value; while the device of currency is clearly an attempt to measure the resulting value and make it negotiable, or, in other words, to provide that the freedom which arises from effective effort should have equal weight in time and space within our national domain.

Fundamentally, then, currency, value and taxation are integrally related, since currency is a measure of value, and value is a consequence of effort, modified by the cost of order; and yet, today, the volume of our currency is governed by a small and uncontrollable sum of gold; while taxation is imposed upon effort, which it tends ultimately to diminish. Such considerations as these force one to realize that some of the accepted rudiments of scientific method are absent from much that is termed economics.

To gain a hearing in a field where there is no audience and a long list of speakers is a difficult problem; and the method may

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strike the orthodox as unprofessional, since detail is eliminated as far as possible, and an effort has been made to avoid technicalities. An attempt has also been made to gain some advantage by endeavoring to keep the auditors awake, though this the orthodox may regard as hardly ethical.

The program followed is designed to show that all our conceptions of value were logically "faulted" by the movement which we called revolution, and which we misguidedly thought was emancipation. We moved, unfortunately, in mass, without much rearrangement of our economic strata.

The salient points are as follows:

(I) A brief survey is made of the confusion of democracy, which is still governed by the short-sighted desires of various strongly-organized political groups. Owing to a lack of any scientific conception of measurement, democracy has not reformulated the tentative economic laws put forward by the unfortunate political-economist in the days when it was illegal to think that kings might be an incubus:

(II) Consideration is next given to the apparent conflict of interest between the community and the individual—the community being concerned with order and general facilities, the prerequisites of value, and the individual with personal freedom (the logical consequence of liberated effort in a region of order), which is value itself:

(III) Upon the assumption that an unimpairable pledge, or token, of value is an essential inducement of effort, a search is conducted for the measurable limits of value, so that the causes for the continual diminishment of our present unit may be discerned and dealt with:

(IV) An examination is made of the fundamental significance of the words "order" and "value" which, in economics (not in physics), we have continued to employ very lightly since we broke away from a system in which both order and value were spoon-fed to the simple-minded subject:

(V) A momentary (and possibly useless) protest is ventured against the deplorable custom of hurling standardized economic epithets at any emergence of reason:

(VI) An uncompromising stand has been taken against our

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dangerous tendency to surrender our freedom of motion to bureaucracy, which is an alarming symptom of our anæmic abandonment of liberty; and, finally,

(VII) A very regretful admission is made that while economic law is universal there are few nations, if any, that do not elect to remain economic outlaws.

Our conception of economics is so badly complicated by inherited errors, and now so involved in the consequences of short-sighted bureaucratic remedies, that any attempt to disentangle ourselves may appear purely academic. The effort is made, however, with the hope that we may, as a preparatory step, disentangle ourselves mentally. For this reason the assurance of some of the following assertions is the assurance of the theorist who has reason to believe he is right, and puts forward his data for expert examination—not the assurance of the reformer who has neither data nor doubt.

It is not urged at the moment that our economic maladjustment can be straightened out. Layer upon layer of custom have entrapped individuals and communities—each layer embracing its own crystallized inequities and errors, together with their corresponding ameliorations and adjustments. Within this highly stratified politico-economic structure we may possibly maintain a diminishing consciousness of contact and life for a long time to come; but it is interesting to contemplate the likelihood that much of our so-called stability is due to increasing pressure and the multiplication of thoughtlessly erected barriers to free motion. If no intelligent easing of the strain is feasible under democracy, we may, in spite of our hopes, have to face the possibility that social evolution itself is catastrophic.

The tracing and elucidation of the origin of human habits, of shrewd elimination and of invention, may be still left gratefully to the historian, who has a noble and inspiring task of his own, and who has thrown, for the economist, much light upon the gradual disentanglement of the individual by our collective absorption or casting out of interference. The historian has already told us, if we will read imaginatively, the nature

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and use of economic value; but no exploration of the sources can solve our immediate problem of liberating this value and then measuring it in tangible terms, so as to make our tokens incapable of debasement with relation to the whole. The historian may retrace the sequence of the swelling stream of value; but he cannot interpret the present in terms of the past; for this stream has undergone two vital changes: it has experienced the breaking-up of the medieval ice-jams; and it now flows within the definite walls of national area.

The period of snow and ice came logically to an end with the advent of representative government. Democracy is now our new channel for human effort,—a channel which can unquestionably be swept clear of obstructions, so as to meet the passionate human desire for individual freedom.

To the economist falls the simple yet exacting task of that unimpeachable measurement of the value of effective human effort by its dominating limits which is the only sound basis for future operations, if economic freedom is to be made possible within the well-defined confines of democracy.

The main theory—the continuous thread which runs through the following essays—should not be difficult to trace. The bare sequence may be stated as follows:

Democracy, in the uncolored terms of science, is the result of a steadily growing conviction, within certain limited areas, that maximum value can only be developed where there is minimum friction—that is, where the free functioning of the individual is subject to least interference. Quite apart from academic considerations, therefore, democracy is interested in the scientific measurement of value for the purpose of devising an unimpairable pledge or token of value that will serve as an inducement of effort, since coercion has been eliminated. The only certain inducement of effort is a guarantee that it will command at any time and at any place, within a given area, at least equal effort. Such a guarantee we would be justified in calling a measure of value.

Value may therefore be regarded as the equivalent of effective effort; and, following scientific procedure, is directly proportional to initial effort and inversely proportional to the re-

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sistance of the area in which it is exerted. Total economic value may consequently be expressed as the ratio between total initial effort and total basic resistance within any given area. If this ratio is to be resolved so as to give us an answer in tangible terms, both effort and the cost of overcoming resistance, or taxation, must be expressed by means of the same common denominator. In this way the national conception of freedom (the sum of all individual conceptions of freedom), which gives rise to effort, and the national conception of order (the compromise arising from all individual conceptions of order), which makes effort effective, together determine what we call economic value. If this is regarded as unity and measured in terms of area and population-density, then any fractional part of this will remain always constant with relation to the whole.

If we attempt to measure economic value in terms of gold we express arbitrary value.

If we measure it in terms of commodities we express momentary and partial value.

If we measure it in terms of effort we express gross potential value.

If we measure it (as the state-socialists propose) in terms of order alone, we are very likely to have no effective effort to measure.

Only then by expressing total economic value as the ratio between total liberated effort and the resistance of the area in which it operates can a resultant be obtained which we are scientifically justified in terming value.

All that is proposed, in the name of science, is that we take into consideration, at the same moment, not only effort, time and area, but also the cost of overcoming resistance. That taxation must be prepaid on the basis of area and population-density, is the vital adjustment for which Henry George was groping in the name of equity. If he had realized that land-value means nothing till we have a scientific measure of value, he would undoubtedly have made good his contention—since all that he urged vaguely, for the sake of justice, was the prime obligation of the scientist to first take into consideration the

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basic cost of overcoming resistance before any attempt is made to discuss value, or put forward a measure of value.

There is no assumption in the following pages that human nature can be changed or that it need be changed. It is suggested, however, that if we can boldly retrace our steps from the economic bypaths into which we were ignominiously driven during the dark days of bondage, we may find that the basic human impulse—our love of individual freedom—has much more to do with economic value than we dreamed. All that is proposed is to give this impulse the greatest possible play within the widest possible limits—but to frankly recognize the limits, since these, without question, are the only things by which we can *measure* if we care to be guided by scientific precedent.

Part I

THE AILMENT OF DEMOCRACY

(An Economic Reconnaissance)

THE ECONOMICS OF FREEDOM

CHAPTER I

THE AILMENT OF DEMOCRACY

I

THE last few exhausting years have laid bare some latent defects; and perhaps our greatest misfortune is that we have failed to realize them. This failure arises partly from the fact that we have been led to hope for a miraculous cure-all for the whole world which would result incidentally in sudden and permanent well-being for each nation, no matter how organized. It is difficult to understand why the world's statesmen did not meet at Lourdes instead of Versailles.

Within our own borders we have also advocates of miraculous specifics, such as Syndicalism, the Plumb plan, the Shipping Board and High-tariff, who continue to acquiesce in flagrant abuses of the laws of economic hygiene, yet nevertheless lay the blame for the logical consequences of these abuses upon our refusal to employ their particular formulæ. These reformers, however, actually believe what they preach.

The very opposition in the ingredients of these new remedies—like alkalis and acids in the same prescription—should make us hesitate: the Guild and the One-Big Union; Self-determination and a Supreme Council composed in part of representatives of autocratic states; increased commerce and new barriers to trade; perpetual peace with greater economic aggression;—all these alternatives are put forward seriously; and there are many of us so little accustomed to strike a balance between ideals based on immediate advantage and ideals based on ultimate equity that there is a tendency to advocate a trial of the whole contradictory program.

2 THE ECONOMICS OF FREEDOM

At the moment we have stopped all housecleaning to listen to advocates of internationalism in one form or another. We are to meet in amity and sleep under the same roof—but only once a year at Geneva! In the interval there is a new scrutiny of passports, a cashing-in of mandates and a general slamming of doors. It would be amusing if it were not tragic. We have been disastrously diverted from our necessary task of house-cleaning at a very critical time.

The internationalist, of course, is correct: his dream will come true and would compel our quick sympathy if he did not persist in talking about it before breakfast; but the dream of international amity is not new and was never copyright. It has not been realized because most of us, while willing to cleanse our garments, are not yet ready to cleanse our hearts—an obvious barrier to enduring peace. If this difficulty could be overcome there is still another: It is not yet safe politically or economically for democracy to take "pot-luck" with autocracy.

It should not be necessary to offend or alienate the internationalist; but we must not commence our day at the call of chanticleer under the false spell of the moon. The dreamer is ultimately correct; but it is not because of his dreaming that dawn slowly approaches.

It is probable that what we call civilization is the progressive modification by man of his environment—his slow attainment of bodily and mental freedom. No international mandate is going to civilize him, for under the most unselfish and competent of trustees, what is likely to be done for a backward race is to relieve it of the necessity of modifying environment and probably by this very act postpone its maturity. To realize this, it is only necessary to contemplate the American Indian and the Hawaiian, or other immature peoples of the earth, particularly those who fell under the arresting domination of ecclesiastical power with political or politico-economic motives, as in South America.

Now if what we call civilization is the gradual mastery of environment, then various national codes are as unlike as their country of origin. National traits differing from our own should not, therefore, be regarded as gratuitous insults: neither

should they be regarded as lending themselves to advantageous fusion, since they are undoubtedly the result of effort and selection within that dominating environment which we call "Country." There is, however, this common sanctity in what different nations call "Country"—it was at these points in the swirling tides and torrents, that scattered groups of the human family found their foothold and held it by throwing up dikes. While the tearing down of these dikes, urged by the sentimentalists, may contribute a thin thread of color to a historical cross-section, as a flood takes out a rich field and paints the surface of a submerged delta, this tearing down, until all levels are equally raised, would probably destroy the very seed-beds of culture. If we fully realize the price, we are likely to strengthen the dikes; for it is no light price in terms of hard-won human liberty; and it is our sentimentalists who haggle over it with their alternate snatching at self-determination and self-subordination, and with their irrational belief that international peace can be achieved by the compounding of disorder.

Let us have done with our dream of empty international courtesy and economic impudence, such as has recently put Nauru, Southwest Africa, West Samoa, The Marshalls, The Carolines, The Marianas Islands, and that part of New Guinea and the Bismarck Archipelago formerly held by Germany, within just such discretionary fences as those with which we surround the Philippines, Hawaii and Cuba. If we are determined to cling to our exclusive areas of privilege, or are willing to permit our neighbors to cling to theirs, our dream of international peace is simply a dream of regularizing the economic spoils. It is not yet a dream of unity; but a very practical method of patenting our advantages.

We have a more immediate task. On no higher a basis than that of urgent self-interest, as champions of democracy, we have plain duties toward our fellow-citizens, toward our international neighbors and toward posterity—at any rate toward the delightful advance-guard of posterity with which we come in contact.

Our duty to our fellow-citizens, apart from any benevolent plans for the future, is to keep faith with those who have

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labored in the past under the joint-guarantees of democracy, and, for the sake of production, to see that these guarantees are kept adequate and respected.

Our duty toward our international neighbors depends very much upon circumstances. In the classic instance on the road to Jericho there was never any question of turning over the unfortunate victim who fell among thieves to a Board of Charities and Correction, the cold comforts of a Mandate, or a Supreme Council of any kind; nor was there any question of including the thieves among the neighbors.

Our duty toward posterity is very plain. We must keep our lamps trimmed and burning, and refuse to share the oil with our foolish virgins in the vain hope that dawn will be hastened by our generosity.

For the sake of the low and smoky flame of democracy, which is now all too feeble for the dark hours before us, let us guard the light we have. If we have failed to keep our lamps trimmed, we should be grateful that they are still burning.

II

We have failed in our duty to our fellow-citizens chiefly through the partial repudiation of the security held out as an inducement to honest effort in the past, by vicious taxation, fluctuating currency and state-competition, and are now rather peevishly making this situation worse by offering very few guaranteed inducements for the future.

In these days of frenzied reform, much of our confusion is due to the things we have done (all in the name of righteousness) that we ought not to have done; but our most costly error has been one of omission, having failed to recognize that basic power, which was formerly political, when all power was vested in one head, has now become largely economic. While our fathers dispersed concentrated political power and apportioned it as justly as they could, we have permitted economic power to concentrate until it comes very near domination. Our exasperated efforts to correct the consequences of this have led in some cases to apparent dispersion: in others to the taking over

by the state of obvious aggregations of power which it would have been much more advantageous to leave to the citizen; and finally, in desperation, to state-sanction of these aggregations, as in California, under the seductive battle-cry that the corporations should pay the taxes.

There is so much rigid belief in regard to this matter of state-control—ranging from a fervid conviction that only the state should distribute milk, to an ecstatic belief in the wisdom and efficiency of the Shipping Board—that to question its justification is to scoff at a new gospel.

To clear away these zealous misconceptions, it is necessary to take as nearly as possible a bird's-eye view of democracy, to see from what it sprang, and to realize again what we originally hoped of it.

The simplest possible picture of our situation is that we had become, through tribal evolution, political serfs on the estate of one family to which we had conceded all power and all responsibility. This power was exercised individually, or delegated to favorites by franchises and royal grants, and the responsibility ignored or repudiated, until individual freedom of action became impossible. We withdrew with great difficulty both the power and the responsibility and decided to redistribute sovereignty as fairly as we could among all the residents of the estate. This dramatic change was a natural reaction from an intolerable interference with personal freedom. What we hoped of our altered position was a prevention of similar interference.

In this way, through the taxing power which we seized, we became the joint-landlords of the estate and were no longer serfs. Surely our collective wisdom should not make us less wise than the individual landlord.

What are the advantageous duties of the landlord, on the simple basis of far-sighted self-interest? Without much controversy they may be catalogued as follows:

- (1) To maintain order with the least possible interference with the tenant.
- (2) To facilitate production and exchange within the estate for the benefit of all the tenants.

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(3) To permit and encourage access to the most advantageous outside markets for the surplus products of the estate.

(4) To scrutinize the character of would-be tenants, to whom is held out the definite promise of ultimately becoming co-owners.

Almost any ordinary landlord would approve this list of duties, while a far-sighted landlord would be keenly interested in seeing that the revenue of each worthy tenant was proportionate to his effective effort, so that there might be given to him every opportunity of improving his individual holdings, the needs and potential virtues of which he knows much better than his landlord. It might be said that some of these alleged obligations go further than far-sighted self-interest; but it would depend whether the landlord were thinking of himself or the estate. In the case of democracy, on the basis of collective self-interest, we have the logical right to assume that we are dealing with an exceptional landlord, whose chief desire is the success of his tenants.¹

Perforce, then, we are the joint-landlords of the estate, with a quick and intimate interest in the happiness and activity of our tenants (who, severally, are ourselves), and it should be fairly easy to agree that our advantageous duties are as stated, namely:

To keep order without unnecessary interference; to facilitate production and exchange; to permit no avoidable barriers to advantageous markets for our surplus products; and to scrutinize the character of those would-be tenants who ultimately are to become co-owners. Expanding these simple conceptions to the terms of statecraft, we have a definite grouping of duties which should not be hard to appreciate, even though these duties have been the subject of much contention where

¹ It is as individual tenants that we are mortally afraid of the single-taxers as landlords. They propose to exact the full "*rental-value*" of land, without any impersonal method of measuring value, or any conception of a scientific unit of measurement. Value of this kind, if stripped to its ugly nakedness, instead of being the orderly relation between known supply and known demand, is the disorderly relation between power and desperation; and since democracy has of necessity less freedom to make exceptions than our autocratic predecessors, can we look for a contented tenantry when we have bureaucratic control of supply pitted against the individual's desperate demand, as a basis of rental value?

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they affect the special interests of certain individuals or groups.

To keep order without unnecessary interference with personal liberty may be said to include the duty of preserving the rights of the person, of preventing monopoly, of arranging just taxation, of sanitation and education, and the duty of terminating unemployment.

The facilitation of production and exchange throws upon the state such proper tasks as drainage, reclamation, reforestation and irrigation, the construction of highways and harbors, the protection of our sea-borne traffic, and—most important of all—the guarding against any impairment or repudiation of our tokens of value.

These two groups comprise our duty to our fellow-citizens in that they ensure, as far as possible, order and consequent freedom of movement.

To permit no avoidable barriers to advantageous markets and to scrutinize our would-be citizens are also duties to our fellows, and possibly cover our whole duty to our neighbor. It is probable, too, that the fulfillment of all the duties enumerated above will discharge any responsibility we have toward posterity.

III

Apart from the safeguarding of the person of the citizen by the state, the first duty is the prevention of any power sufficiently great to challenge or usurp the functions of the state. We have granted to the state the right of coercion only that order may be preserved, but it is a fatal right to yield to any man or group of men within the political boundaries of the country. This our fathers realized and they endeavored to guard the rights of individuals against such a menace as far as possible, though they were more afraid of the state itself developing tyrannous power than they were of any group within the state. Despite their precautions, led by optimists and would-be miracle workers, we are now, unfortunately, engaged in throwing down some of the safeguards they erected.

If it seemed necessary to be on guard against the possibility of state-coercion, which is ostensibly unselfish, how much more

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necessary is it to be on guard against coercion by individuals or groups? Politically this coercion is supposed to be impossible: economically it is accomplished. In spite of the apparent need for caution, we have permitted the creation of trust-funds with organic vitality so great that it saps that of the community; and have continued to acquiesce in a system of inheritance which suffers the succession of incompetents to great *power* without corresponding *responsibility*, chiefly because we have made no intelligent attempt to measure either the one or the other. Our tolerance of arrogant combinations of both capital and labor, and our tendency to permit combinations of a few favored farmers,—all of these are obvious departures from the original dream of equality of opportunity. We treat the symptoms of malpractice with counter-irritants. The growing danger of this course of action is that we are again permitting economic power to reconcentrate to the advantage of small groups and, in many cases, to the detriment of our freedom. When we become painfully aware of these concentrations, in our lassitude or bad temper, we ill-advisedly hand them over *en bloc* to various unco-ordinated state bureaus which have both the inclination and opportunity to become self-perpetuating, thus limiting individual freedom of action even more rigidly than if the powers had been left in private hands. Many complicated remedies are being tried. The graduated inheritance-tax, with all its clumsy machinery of appraisement, is our ill-considered response to the disguised doctrine of divine-right, but, as it is almost impossible to distinguish between genuine and evasive gifts made prior to death, this whole question is one to be carefully weighed. If we make responsibility proportional to power, we can probably save ourselves the trouble of interfering either with gift or bequest if these are any inducement to individual effort, since this individual effort is what democracy was designed to encourage.

The high rank of "monopoly" is too lightly conceded in some cases and too vindictively bestowed in others. Brilliant developments of services or ideas may appear to be monopolies owing to the magnitude of their reward, but these services and ideas can be duplicated or bettered by effort and, since the in-

ducent to duplicate or to better is very tempting, the community may well be the gainer by keeping hands off. Nothing is gained by community confiscation; for if the state seizes all coal and sells it at a loss, no intelligent citizen is going to look for oil, or any competitor of coal. It is also worth while considering whether our socialistic compromise, the effective patent granted by state-sanction and state-supervision to public-service corporations, is not exceedingly dangerous. In effect, enterprise, effort and inventiveness threaten the farmed-out state-monopoly, and become high-treason.

The only power we need fear is power that may not be duplicated by any effort; and is therefore in a position to impose tribute under the guise of demanding payment for service. If this conception of monopoly is correct, we have only to look for power which has the capacity for demanding tribute without rendering service in return, and which need not fear duplication. Many of the so-called monopolies, against which we rail, are actually created by state-sanction and are simply the modern economic equivalent of the medieval baron who levied toll with the connivance of the king. We are growing conscious of this situation and a little restive under the repercussion of our remedies. As a matter of fact, monopoly is a scent which always urges forward the linked party-hounds of democracy. Where we have failed, as stated, is in pursuing our modern predatory barons so far, that we have allowed the state to pick up and utilize much of their hastily-abandoned coercive equipment. Competition by the landlord is disastrous for the tenant; and competition by the state is equally disastrous for the citizen, since individual effort can never compete with state-control. The moment competition is eliminated by the state, we are then very likely to find that we have to deal with connivance between the supervising bureau and the supervised industry.

The explanation of our present confusion is that we have suffered private control of basic economic value, *without contingent responsibility*, until combinations have been formed sufficiently dominant to challenge or usurp the taxing power of the state or finally to share it.

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The maintenance of order also forces our attention to the question of just taxation, since the prime need of taxes is to defray the cost of maintaining order. If taxation is regarded as a means of revenue to be used for the creation of idle offices, it is no better justified than it was when required for the king's mistress. If it is to be used for the creation of Bureaus designed to compete with the private citizen, it has no more virtue than it had when levied on the subject to bolster up the interference and tyranny of the king or his favorites. Under democracy we are interested in taxation, not for the fund created, but solely to meet the cost of maintaining order and providing general underlying improvements designed to facilitate individual enterprise. Taxation in its simplest terms should obviously be a contribution toward the cost of order in proportion to individual control of value. Control without corresponding responsibility is either tyranny or potential tyranny; and this is exactly what our fathers went to such pains to escape. It is a condition that we should be quick to resent for our own sakes; but, as a matter of fact, most of the victims of this maladjustment are unaware of it, while the beneficiaries are conspicuously silent, and probably quite unconscious of anything but what they regard as the adequate reward of their outstanding virtues.

In the so-called progressive states of our Union, whenever a telephone is used to save time, whenever a bath is taken of necessity, whenever any labor-saving device, such as truck or tractor, is employed, every addition to storage to save waste,—all these are taxed. It is now seriously proposed to penalize the exchange of all goods by a tax. Is there any limit to our economic stupidity? Our plain interest and duty is to facilitate production and exchange, and we suffer obstruction and penalty. These things are done in the name of democracy by self-styled reformers, aided by those few who think that they profit by economic confusion.

All indirect taxation—taxes on exchanges, taxes on consumption (either direct or through corporations), taxes on improvements and on the means of manufacturing or transportation,—all these are tolls levied on need and activity. Have we

stopped to think that it was because of such tolls as these that other governments waxed fat and irresponsible—and fell?

Our present scheme of taxation is so inequitable and so unwise that it seems almost unnecessary that the diagnosis go any further. If such a plan for revenue were put into effect on the estate we have pictured—a tax on all tools, licenses for blacksmiths, penalties on improvements, punishment for the planting of fruit trees, and irritating tribute on the transfer and consumption of food—we should very soon have a revolting or disappearing tenantry.

This inquiry, then, leads back to the significant question, which will come up repeatedly in this attempt at diagnosis: where, under democracy, does basic economic power lie and how has it escaped just measurement for purposes of assessing responsibility? For surely it is power² that should be held responsible and not either activity or need.

The tasks of providing sanitation and education have been honestly attempted; but they have been hopelessly impeded by the fact that our system of taxation has no relation to the purposes of democracy, being a deplorable method of raising funds from the producer, taken over without scrutiny from our deposed tyrants.

The prevention of unemployment is one of our conspicuous failures. No vicious or ignorant landlord could have done worse than we. To have an unoccupied body of labor, breeding crime and discontent, and forming in time of its misery a weapon capable of use by an unscrupulous or harassed employer against a more scrupulous or generous employer, and, in time of desperation, becoming a menace to the state, is to deliberately invite trouble and catastrophe. We deal with this situation so childishly, with our prattling of “minimum-wage,” when we have no minimum value for our dollar, and of unemployment insurance, when there is crying need for labor, that the very kings and barons we cast out must smile sardonically if they can see us. What would any sane landlord do, confronted

²Throughout these pages, where the term “power” is employed, it is intended to mean the basic control of value or freedom, for these will be found to be the same thing in the end.

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with unaccomplished and vitally necessary tasks in the way of drainage, roadbuilding and reforestation, if he had surplus labor available, particularly if his tenants were clamoring for these improvements? Obviously he would employ this surplus labor gladly and set it at these non-competitive undertakings. Just as obviously, if he were a wise landlord, he would settle diplomatically all the bickerings of his tenants as to a fair wage, and would be delighted at the opportunity of setting a scientific standard of remuneration against which his most niggardly tenant would have to bid.

Our failure here is a secondary one. The primary failure is our blindness as to the just relationship between power, the control of value, and taxation, the insurance of value. We know there are specific tasks to be accomplished: we know there are periodic seasons of desperate unemployment; but we cannot take advantage of the situation because we have elected, or are sufficiently stupid, to tax activity and need instead of power. Power is silent and still evades us; but we can always lay our hands on need, and intercept activity. We have driven arbitrary taxation—this ancient weapon of autocracy—as a wedge between the task and the tool—between public needs and surplus labor. Owing to our primitive interest in nostrums, we have not stopped to realize that the task and the tool can be much more simply dealt with as two complementary phases of the same problem.

The facilitation of production and exchange is so plainly advantageous to both state and citizen that there is no need to amplify here. Our failure to provide physical facilities is not due to a lack of perception on the part of anyone as to what should be done, but to the difficulty of ascertaining what we can afford to spend, owing to our absurd taxation, which is based on consumption and activity—on need and effort—instead of underlying power.

General improvements such as the construction and maintenance of highways and other facilities, and the reclaiming of the unoccupied public domain, so that it may be turned over to private and productive ownership as quickly as possible—these are urgent tasks to be paid for by taxation which is propor-

tionate to control, and which can be automatically increased without hardship as fast as underlying power is enhanced and additional responsibility is thereby incurred.

The duty of guarding against impairment or repudiation of our tokens of value is one which we have not only failed to meet, but have failed largely to recognize as a vital duty for the trustees of democracy, though our failure here has become glaringly apparent in recent times in the debasement of remuneration and the repudiation of an implied security which was the inducement of much honest effort in the past. Professor Irving Fisher has done invaluable service to the community in emphasizing the measure and effect of this failure. Such debasement or partial repudiation has served as a definite check to honest effort at the present crucial time. Not only as a problem in abstract justice, but as a matter of cold policy, remuneration must insure the future use of their surplus effort to the diligent members of the community to induce the fullest exercise of their activity. There is only one inducement of effort and that is unimpairable value, not subject to erratic taxation, and *not subject to dominating power*. This again brings up the same significant query: where is such power to be found and what is the basis of its effective domination?

In the last analysis our currency should be a clean negotiable token of basic exchangeable value, insured by order, and guaranteed by an actual pledge of such value. We exercise thrift and effort, and in this way create for ourselves the right to demand effort in return; otherwise, very naturally, we do not exercise thrift or effort! If a time comes that our just demand, through carelessness or chicanery, is repudiated, there is a very proper sense of injustice and a slowing down of the whole flow of effective effort.

It is more clearly evident today than ever it was, that our currency fulfills not one of the qualifications which the economists lay down. It is certainly not a store of value. It leaks! It is not a stable measure of value; and because of this it is not a safe basis for deferred payment, nor a convenient medium of exchange. The exchange cannot be made quickly enough! So far is our currency from being a measure of value that we have

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come to a point where we calmly, and without any sense of shame, commission a Federal Bureau to measure its fluctuations in terms of goods! If our currency were bullion, it would then be a scarce and durable commodity of small bulk and, without doubt, very convenient from this aspect, but to say today that our currency represents bullion is to expose oneself to the suspicion of being either dishonest or ignorant.

There are many partial remedies proposed to make our tokens of value representative of value. To talk of barter is to go back to the disorderly methods with which we started—goods for goods, and the devil take the hindmost who is left with a surplus. There is no facilitation of exchange in this proposal, for if put in practice goods would wear themselves out as they moved backward and forward in the liquidation of bargains, and in the absence of desirable goods there would be no payment available for surplus effort. We should live from hand to mouth; and our civilization would revert to the limitations of tribal intercourse.

To propose as a measure of value or a medium of exchange a bulky and vital commodity such as wheat, is to subject our currency to the threat of inflation from every homestead in the United States, to make the normal cost of remitting balances more nearly ten per cent than one per cent, to live in fear of interruption to traffic, to expose our security to locust and weevil, and to become again worshippers of the sun and seasons.

To put our trust in labor as a measurable basis of value is fully as foolish as putting it in princes: and for labor as a body, it means ultimately working under the spur of the bayonet or the humiliation of a speedometer. There never was a basis of value suggested more capable of sullen or whimsical dilution than this.

To adopt the fluctuating weight of gold advocated by many, with Professor Irving Fisher as their leader, is to put new wine in old bottles. It is an attempt to compromise, but still deals with currency in terms of fluctuating goods and gold, not in terms of measurable value.

The solution of this problem is not obvious but surely there can be found, *within* a well-ordered state, some measurable basic

factors of internal value, underlying goods and their fluctuations, which are not subject to moth and rust and not subject to disastrous depletion, substitution or projection into space. The key to the problem seems to be that we must uncover the *basic measurable factors of total economic value*, so that our negotiable tokens may bear some definite relation to the whole. It is not scientific to limit our currency to a varying percentage of an unknown quantity. It is not even sensible.

IV

The obligations already enumerated would comprise, then, our duties to our fellow-citizens, if we occupied a self-supporting island in space, and might complete the full list of our responsibilities; but, fortunately for our advancement, we do not occupy an island in space. Now, if we are too cautious to share control of our country with peoples of different training and motives for the sake of internationalism, nevertheless, we should meet these peoples in as neighborly a spirit as possible, for it is to our advantage to trade our *surplus* commodities for theirs, *if, after a careful investigation, we are sure we cannot use the energy that went into that surplus to better advantage at home*. We have here at the outset one amazing folly to acknowledge, which is probably a direct consequence of changing politically from allopathy to homeopathy every four years, in the hope of curing our ailments. In dealing with our neighbor, whether our motives are good or bad, wise or foolish, having erected barriers against his goods without any very careful inquiry as to the beneficiary, under one régime, we have embarked, under a totally antagonistic régime, upon a magnificent career as a merchant and have enacted legislation such as the Webb-Pomerene law, permitting practices that we have regarded as immoral at home, to enable us to place our surplus products on sale in foreign countries, where such immorality is assumed to pass unnoticed. How are we going to be paid? Our customers by now have little gold, and (as triumphant Republicans) we cry a plague on their goods. With their goods barred by tariff, and lacking money, they offer

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their services as ocean-carriers, but (as triumphant Democrats) we refuse their services too, and create a vast, cumbersome and incompetent merchant marine, flouting our needy neighbors and crushing, incidentally, our few optimistic citizens who stood ready to fill any vital gap in the stream of water-borne commerce. From any point of view except that of the imperialist, which is quite logical, but which we hotly repudiate, we are in error and must face the consequences; for we can only support our international fallacies with armed flotillas.

In dealing with our neighbors, we come up invariably against a most fiercely debated choice of policies—that of protection or free-trade—of economic barriers or their removal. Fundamentally, this is not an economic question but a political one; and it is in the confusion of terms that special advantage is gained by those who know what they want for themselves. *Tariff for the protection of profits* may be a politico-economic consideration: it is an economic absurdity as far as the general welfare is concerned. *The protection of certain basic standards*, however, is a political safeguard which cannot be neglected if we are threatened with the menacing result of politically supported aggregations of economic power in foreign countries, or in our own economic dependencies, for that matter, which give us such things as suspiciously cheap foodstuffs. If it is conceded that taxation is economic responsibility and should therefore be proportionate to basic economic power, then tariffs for revenue are not logically justified. They are tolls of the most stupid and obstructive variety. Barriers for the protection of vital standards, however, are quite another matter. If we do our duty and set a high standard of industrial decency, instead of boasting of it only, we are logically forced to defend this standard against those of our unfortunately organized neighbors who operate on the basis of gigantic sweat-shops for the benefit of a few. It is a little difficult to convince the idealist, but perhaps worth the attempt:

If, in advance of a uniform conception of humanity in the various states of the Union, there was any moral justification for grappling with the child-labor question by the effective method of prohibition of inter-state shipments of the products

of that unfortunate labor—and it is reasonable to look for the support of the idealist when justification is claimed—there is equal moral justification for forbidding by interdiction the passage into the Union of the products of similar or even more deplorable conditions in States, situated outside our national boundaries, where economic democracy is repudiated. In spite of the powerful sentimental appeal in the phrase “free trade,” it is also reasonable to demand the support of the idealists for a wider use of their method of dealing with domestic unpleas- antness. They cannot refuse to recognize that the barriers created between righteous and unregenerate states within the Union are only maintained in the end by Federal force; and in the end also any barriers erected between economically emanci- pated and economically backward countries can only be main- tained by an Army and Navy. It is very sad to realize that such popular remedies as “Free trade” and “Disarmament,” even though specifically labelled by the idealist as unquestionable vir- tues, must be carefully scrutinized for the sake of our experi- ment in democracy, as long as we are dealing with autocracy or arbitrary power in any form whatever—and, unfortunately, this cautious attitude may, quite properly, be taken toward us as well as by us.

Free trade, like internationalism, is a beautiful dream. Pro- tection under certain conditions is a deplorable political neces- sity. Our failure lies in permitting it to be anything but protec- tion. What it has been, very notably, is cleverly manipulated privilege in the name of protection.

Import duties, if they are designed for revenue, are taxes on consumption, or, more baldly, they are taxes on need. If they are designed for the protection of importunate industries they are often super-taxes on consumption or need.

There is probably no very pleasant dose for the clearing up of this complication. It must be faced honestly, taking into con- sideration from a purely economic standpoint the fact that tariff for revenue is a major example of pernicious taxation and that tariff for the protection of the intrenched beneficiaries of our present system is even more pernicious. Such taxation is a toll taken from the weaker in either case, and has nothing

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to do with democracy. It is, in fact, a left-over weapon of irresponsible power, and our so-called reformers show remarkable aptitude in its use, at the behest of special and local interests.

The last duty named in our list, *the scrutiny of the character and suitability of would-be citizens before admitting them*, is another painful necessity which bowls over a number of our standing ideals at the same time. Reverting to the conception of democracy as an estate of which the citizens are joint-landlords, we may be fully justified in saying self-interestedly, "Our fields are ripe unto harvest and the laborers are few: let them come in." Or magnanimously, "We have broad pastures untilled and hillsides unterraced; there is room for all your destitute: let them come in." The barrier to this policy of permitting the free movement of peoples, which is almost as dear to the idealist as the free movement of goods, is not sheer selfishness and wrong-headedness, even though some of the selfish and the wrong-headed do not approve the invitation. The final barrier is not economic but is political, and is actually the long-cherished hope behind the fine-sounding word "democracy"—the dream of freedom in a zone of self-imposed order. Under a purely idealistic conception, whether our immigrants come as needed laborers or, for the sweet sake of charity, are yearned over in their destitution, they graduate under our present system into joint-trustees, with no adequate training for the task and little in the way of tradition except a belief that the price of liberty can be paid over to a steamship ticket-agent and the bargain sealed. They also, because of their long-standing aches and pains, have a belief in nostrums even more dangerous than our own.

We have failed in this task, owing to our lack of comprehension as to the first cost of democracy, and the cost of maintenance, and owing also to the deplorable haste with which we have turned our immigrants over to the demagogue and the privilege-monger for their own ulterior uses. The needed laborers and the dubious refugees we have welcomed so warmly-hearted are now joint-landlords together with their spoilers,

their sympathizers and those of us who have taken no interest in the problem.

For this condition of affairs, there is probably no simple remedy: the barrier to the practice of abstract idealism is our one essential ideal, democracy.

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Our duty to our fellow-citizens, then, is fairly plain, even if a little costly in terms of detached and unrelated ideals. It becomes, perhaps, more apparent that our duty to our international neighbors does depend on all the circumstances in the case, and not on any one ideal in this rather complicated world. Wherever there is no political menace to our basic organization it would be reasonable to look forward to free trade with free neighbors. Wherever there is no danger from their traditions or practices, it would be equally reasonable to look forward to the free movement of free neighbors; but, apart from lofty considerations, these neighbors must, if we are to survive, suffer and enjoy our mixed handicap and safeguard of democracy before we try to exchange anything on equal terms, even ideals. As far as some of them are concerned we do not think or speak in common terms, and, even after they have accepted among themselves the hazard of political equality, we shall then have to scrutinize very closely the extent of their economic emancipation. But we should be sure of our own.

If we are sufficiently educated to deal honestly with our problems—if our conceptions of equity are not still distorted by the hope of special privilege—we may, without any reason to look for immediate peace or comfort, have the bracing sensation of facing our difficulties. The problem of democracy is the isolation and measurement of basic economic power, or control of value, owing to the imperative necessity of apportioning the corresponding responsibility. We have been quite justly so proud of the fact that we have a right to insist on a trial by a jury of our peers that we have paid no attention to what became of the King and Executioner and just what new weapons they picked up when we made them drop the sceptre and the axe.

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Our prime political ailment, then, is a deep-seated and dangerous delusion that freedom is a self-perpetuating heritage, like royalty, instead of being the direct effect of orderly effort; *and the economic reflex is that we conceive value apart from the cost of order!* Because of these flamboyant delusions, we have failed to make any attempt at measurement, and consequently have failed to perceive that there are menacing aggregations of power within our borders upon which we impose no pro rata responsibility. We have suffered this economic power to coalesce and carve out its baronies, and to perpetuate itself through competent or incompetent succession, as chance may dictate. Our other ailments are secondary and are annoying symptoms which we attempt to alleviate by the use of specifics. It needs only experience with this type of major delusion to predict that in our cumulative discomfort we are likely to hand over all power to state-bureaus, in spite of the fact that they are eminently capable of interfering with our personal liberty. This development is similar to the progress of megalomania, or irrational self-esteem, which, if it does not result in emasculation, may finally with disillusionment culminate in suicide.

The difficulty of dealing with the matter is this: we imagine that we are a free people. Potentially or politically, we are both free and equal. Actually, or economically, we are not, being still subject to the ancient tyranny of power divorced from responsibility.

In favor of democracy, in spite of our flamboyant idealism, is youth and exceptional vitality, together with the hope of the old lesion of special privilege being healed and its resultant clots absorbed by the whole system. The present condition of democracy is not a fatal one; but the tendency toward emasculation and suicide must be watched, for the history of recent years with our surrender of individual rights has some ominous indications. The old political dose taken at intervals of four years can do little harm, but it is quite useless as a cure.

Politically, we are a democracy in the simple noncontroversial sense that the ultimate power lies in the hands of the people. Practically we are in grave danger of becoming a plutocratic oligarchy with marked imperialistic tendencies; and unless this

is realized clearly, instead of being met by incidental regulation, we are drifting rapidly toward bureaucracy, which is simply a petulant change of servitude.

Our imperialistic tendency has been indicated in discussing our attitude toward foreign trade, and is confirmed by conditions both at home and abroad. At home we have periodic unemployment, forcing the quest of new controlled markets to make up for the lack of domestic purchasing power—a lack which we have brought upon ourselves by failing to provide a valid unit of measurement to encourage effort and thrift and to facilitate exchange, and also by interfering with individual effort through archaic taxation. Abroad, by the extension of our tariff, for the benefit of special interests, we collect tribute⁸ where we fly our flag. Where we withdraw our flag, as in Cuba, or give our economic dependents the right to fly theirs, as we have in the Philippines, we force, either directly or indirectly, a continuation of this tribute, and we see to it just as definitely as any King of Spain—and even more effectively—that our economic dependencies have as little traffic as possible with those nations that challenge our commercial supremacy in certain foreign waters. It is no deliberately malevolent policy, but it slowly crystallizes out from the illogical concentrations of economic power which have arisen because of our failure to measure. We have discouraged individual human effort and acquiesced in irresponsible individual control. This is unspeakably poor engineering. With our largely artificial need for foreign markets: with our refusal to accept goods from our neighbors: with our declared determination in our shipping policy not to accept services; and with most of their gold already accepted and stored away, what is there left to take? Only obligations, and these obligations must be ac-

⁸This is not as simple a matter as it may seem. The "tribute," in its final incidence, does not fall upon the economic dependency, but upon our domestic producer of foodstuffs. The dependency pays more for our manufactures; but receives more for its agricultural produce; and, on balance, is no worse off. But our modern economic serf, the American farmer, who is the victim of our archaic tax-system, receives less for his produce because of additional competition—and pays more for his manufactured goods. He thinks of this in terms of low prices and high costs: it is nothing more or less than vicious taxation.

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knowledged by annual tribute and be enforced by an adequate Navy, or, in the end, be redeemed by vital concessions.⁴ These will be the humble recognition of our temporary Imperial Economic Highness until the ugly thing some of our more ambitious citizens think that we must build has gone the way of all Empires which are held together for a few pages of history by politico-economic coercion. This may be our destiny, but it is a pity to face it with bandaged eyes.

As already suggested, this curiously contradictory tendency in democracy is inevitable as long as we continue to measure value as we do, and put a tax on effort. We submit to the domination of these archaisms; and invite the struggle for adjustment which naturally plays havoc with all our national calculations. Imperialism is not a French trait, a British trait or an American trait. It is embodied in the imperial habit of thwarting domestic demand, and seeking a more ignorant alien demand.

It is not a pretty picture and many of us will not admit it is a true one—that is our danger. We have our gold barons, our gold earls and our gold dukes, all with their international patents of nobility, possibly even our discreet emperor who moves among us in disguise, taking his subtle pleasure in hobnobbing with two or three guileless but hopeful pretenders; but thanks be to our fathers who handed them over to us, we have them all on a leash—if only we can pick up the loose end.

Our inquiry into the cause of our ailment shows that at various points there is lost the proper relation between power and responsibility—the two vital complements of the life-blood

⁴This is confirmed by more competent financial authority.

"Ordinarily such a change in the balance of our international finances, if effected gradually, would entail the importation of goods in excess of our exports. Our transition to the status of a creditor nation was so abrupt, however, and the subsequent state of world trade and industry has been such that, fortunately, we continue to export goods of greater value than our imports. To mitigate further the consequences of the abruptness of this change in our fiscal position and to facilitate the liquidation of the debts owed us by foreign nations, we must accept their securities until we shall have readjusted our economic position so that we may safely accept in goods a greater proportion of the balance due us."—*The Guaranty Survey*, March 27, 1922, The Guaranty Trust Co., N. Y.

of democracy : at these points there were repeated evidences of economic responsibility shorn of power, and still more definite indications of the existence in the system of economic power unchecked by responsibility. Where does such power secrete itself? This is the question to be faced ; for it arose in discussing monopoly, pernicious taxation, inadequate currency, unemployment and imperialism as symptoms of our derangement. At some point the proper balance between power and responsibility is not maintained, and there follow numerous distortions.

To check actual monopoly, we realized we had to discover economic power, or control of basic value, subject to no threat of duplication, and deal with this. To readjust taxation, we had to ascertain the distribution of economic power that we might assess pro rata responsibility. To validate our currency, we required tangible factors determining total basic value so that we might be able to employ a token, or pledge, which represents some definite part of this total, so as to check debasement.

There is only one fixed factor within democracy that meets these requirements, namely, acreage, or foothold: this factor, as modified by population, provides our only scientific means of measuring basic economic power, or control of value, in definite terms, over an extended period of time.

Gold may be dug from the ground by any one who is lucky : labor strives and becomes capital, a wasting factor, or sulks and ceases to be a factor ; genius opens like a flower and is gone ; goods perish and our so-called values change. As for the endless flight of hours, we rob their hive of the accumulation of ages for the needs of a day. Only acreage, or the measure of foothold, stands unaltered within the political boundaries ; and as soon as we realize that this is at all times constant, it is purely academic exercise to waste much time over unmeasurable factors. Foothold or acreage is not "land-value," for such value can be increased and diminished—acreage cannot.

The duty we have so far fulfilled, and our only reason for pride, is that we have not measurably impaired the heritage of political freedom which has been entrusted to us ; and, thanks to our belligerent idealism, are not likely to do so. After all,

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we have pinned our faith to democracy and this is our ample channel for advantageous effort, if we can clear it of old obstructions. We have nothing to fear save our capacity for self-delusion, which is largely due to the inbred degradations of autocracy, and our prompt adulteration of democracy with schemes for individual vantage and power, the seeds of which are brought in with every immigrant who does not realize that democracy rests, not upon some miraculous domination of cause and effect, or some advantageous domination of the effort of others, but upon that most reasonable yet difficult domination of all—the domination of self; for no latter-day miracle is going to make the whole any greater than the sum of its parts.

CHAPTER II

THE INDIVIDUAL AND THE COMMUNITY

I

IN dealing with any problem of direction, the reformer sees his mark, and no matter what winds are blowing and with no regard for inertia, aims point-blank. The net result of his far and true vision, and his haste, is to plow up his neighbor's peaceful garden in the foreground. Among the most urgent of reforms is a provision that the professional reformer be only allowed to operate under license as any other pilot. His first qualification should be a thorough knowledge of ballistics, so that in plotting our forward path, we may be certain that he has taken into consideration not only the desirability of his objective and his available driving force, but also the factors of drift, friction, humidity, dispersion, altitude and gravitation, to say nothing of our recently acquired knowledge of air-pockets. To solve a very simple problem in exterior ballistics, the matter-of-fact artillery-man employs formulae including all these factors; and if such an array of modifications is involved in calculating the path and destination of a body of known weight and shape, propelled by definite chemical force, and moving through as penetrable a medium as air, are we justified in following with any confidence a ruled line between Earth and Heaven, even though laid down with as unshaking a hand as that of the enthusiastic reformer, notwithstanding our full appreciation of his beatific vision?

In the realms of economics we have also conflicting and modifying factors, particularly if we regard economics as the study of the measurement, development and distribution of human energy. The conflicting factors are possible of co-ordination, even though some are vertical and some horizontal, to say nothing of being both negative and positive. There

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must be co-ordination if we are to keep men hopeful, and ensure the steady forward and mounting path of which democracy dreams,—but the resultant will probably be a curve, not a straight line.

II

Let us take first the most characteristic individual factors, which, for the sake of argument, may be termed vertical, and later consider the community factors, which we shall regard as horizontal. As stated before, the logical interest of the individual is the value arising from effort; and the logical concern of the community is the provision of such order as will encourage this effort.

Normal Individual Considerations

First. Owing to the instinct of self-preservation, which is our first and last impulsive clutch at individuality, there was developed in man the faculty of foresight, arising from the natural desire for that assurance of continuing freedom which we call security. The desire of self-preservation lies at the base of all our motives, even though in its simpler forms it is not our most picturesque motive. Without its assurance, however, the successive motives do not come logically into play.

Second. This desire of security, or the continued assurance of freedom, is the prime motive of extra-effort, self-denial, thrift and less worthy striving, and, if permitted by the community, leads to the accretion of capital, or stored effort, to guard against the uncertain future.

Third. In spite of the existence in the system of money, the conventional token of arbitrary value, and its momentary acceptance as a guarantee of freedom, nevertheless, the individual control of land-area has consistently been regarded as the only valid assurance of continued individual freedom, even in the face of predatory taxation. This instinctive economic wisdom is the basis of the peasant's "land-hunger" and has been bred in his bone.

These three primary considerations show as briefly as possible the reason for contending that normal individuals, as they have succeeded in dispersing sovereignties inimical to their freedom, and have endeavored to command security through accretion of value, have instinctively converted their accretions into land-ownership or control of territory. Economic cycles, the commencements of which were contemplated by long-buried ancestors, have driven the lesson home. Communicating the sequence by tradition, a family or community, through many generations, has jointly seen the unit of economic power expressed in terms of force, superstition or convention, and from each of these practices has slowly withdrawn approval.

With the guidance of the historian we can see more sharply that, no matter how modified by the restraints of the community or by environment, the conventional "unit" of economic value has changed from the club, as wielded by the primitive savage, to the man-at-arms, as utilized by the brigand and baron: from the superstition manipulated by the magic-man, to the domination of the church; and finally from the money, issued by the king and his concessionaires in the days of arbitrary political power, to the conventional tokens of vague value adopted by democracy; and realizing these changes we can appreciate the fact that the final repository of value is land-area. The reason for this is that land is limited in quantity; and is not subject to unexpected and distressing duplication, such as, by a stouter arm, upset the calculations of the primitive man with his club: by surprise and ambush played havoc with the man-at-arms: by successful schism destroyed the domination of the priest; and by dilution or debasement of the value of money sapped the power of those who put their trust in it.

The same review of economic history also indicates why the resentment against unrestricted taxation of land has been so deeply rooted. Here is the *lèse majesté* of democracy, though we feel this rather than perceive it. In effect, it is a proposal to permit the community to debase, for any whim or desire, our hard-earned individual security. Without clearly defined and adequate guarantees, it is as easy to persuade land-holders, large or small, joint or several, to acquiesce in the sole taxation

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of land, *on the basis of personally-appraised value*, in the name of reform, as it is to persuade a solvent merchant to go joint account with a potential bankrupt, for the sake of activity. It may conceivably be done, in the name of democracy, by a forward-looking reformer; but if no definite limitations are agreed upon and if no proper allowance is made for the upward-striving individual, the reformer's forward motion, ignoring trajectory, is likely to be of short duration.

III

Normal Community Considerations

There are also certain primary community considerations which, again without reproach, are of vital importance to all of us jointly; and it should not be difficult to realize that they are logically divergent from these equally proper individual considerations already enumerated.

Just as the desire for ample personal security sometimes develops, by sheer momentum, the opportunity of coercive power, and the exercise of this power has the effect of a taste of blood upon a predatory animal, so the exercise of delegated control may overreach itself and develop into an equally blind lust for bureaucratic coercion in the name of "progress." In the hands of such self-seeking leaders as democracy is bound to develop while it awaits experience and is still a ferment, the thirst of the demagogue and his henchmen for personal power vitiates all the simple calculations of the idealist.

Under our present economic system—a logical evolution in which the growth has been from the tap-root of self-interest and the pruning from the hastily erected scaffolding of community-interest—there has been a steady curtailment of individual power as this has overshadowed and thus threatened the security of the community. Owing to the necessity of haste and to lack of experience, these limitations have occasionally had unexpected results; but by this process of pruning, the private maintenance of armed forces and the economic domination of the church have passed into the hands of the com-

munity; and more lately, the expansion and contraction of currency and bank-notes, and the validation of credit for the purpose of increasing the volume of money, which is a very dangerous power in the hands of individuals and groups, has also passed partially to the community under our Federal Reserve System, with consequences which still demand open-minded scrutiny, since what we have done is to delegate these arbitrary powers of validation to a narrow personal control, however carefully selected. This, under our political system, is almost bound to suffer periods of deterioration with disastrous results, for the very impersonal reason that our present currency has no integral relation to basic value.¹

The arbitrary units of power, therefore, as they became unduly massed in individual hands, have been either dispersed or absorbed by the community; but the silent concentration of power in land-ownership has not yet been dealt with as an immediate menace. This is due to the absence of direct pressure, owing to the intervention of an arbitrary system of taxation and a spurious basis of value, both of which break the enlightening sequence of cause and effect. With growing economic consciousness, however, the domination of large landholdings is beginning to be brought to focus locally in this country and to be apprehended even more keenly elsewhere. Certain popular legislation in Great Britain and Australia, the economic justification for which may well be questioned, has been in response to noticeable pressure and gathering apprehension.

In the United States, the imposition of an inheritance tax is perhaps our first hasty defensive posture but, even with this

¹The conversion of swaying credits into apparent measurable resources—a desperate attempt to create economic demand out of thin air—was probably one of the incurable conditions that forced Germany to try to cut her way out of an impossible situation by the sword. It was fairly well known to merchants doing business in South America and the Orient, that the long-term credits granted by the officially supported merchant-emissary of the German Government were not sound; but they were *validated*—by a long chain of banks centering in Berlin whose functions were semi-official. The rosy-looking but ridiculous expansion went on while our zealous American Consuls upbraided us for failing to follow suit: we could not, then; but we are opening the way by various devices for making endorsed foreign obligations a further basis of currency.

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haphazard and ill-considered precaution, the irresponsible control of land-area is not necessarily broken, so that there are as yet no very happy or logical results to be recorded of a new effort to disperse menacing aggregations of individual power which exist through direct or indirect control of area. If the proceeds of such taxation are employed mainly to fatten the stirring political leeches and initiate destructive competition by the state with the less powerful individual, there is nothing gained. All that can be expected of this very unscientific method of pruning is that it will compel a partial and costly redistribution of basic economic control into other irresponsible hands; for unless we see that economic responsibility is also redistributed at the same time, we have not accomplished much except to convert massed friction into scattered friction.

In this discussion the community is not regarded as an aggregation of individuals enjoying in common the benefits of all individual effort, but as a trustee through which necessary authority is brought to focus to guarantee order. The community—sentimentalists to the contrary notwithstanding—while it has obvious interests, has no inalienable rights. A community may be an aggregation of hobos whose joint and several ideal of happiness is the appropriation of pies from back porches. The method of approach and the division of the spoils may be jointly settled upon in advance, but no kind providence guarantees the pie; and this applies also to more respectable communities.

The following are put forward, then, as normal community motives :

First. The major interest of the community is continuity of order or the maintenance of conditions which will ensure a maximum flow of effective effort.

Second. A maximum flow of effective effort in a self-governing community can only be obtained by utilizing the pressure of necessity and the inducement of unimpairable reward.

Third. In utilizing the guarantee of reward to encourage individual initiative to make its maximum effort, the community must deliberately sanction specific and irrevocable inducements.

It cannot retain all the cake—as the socialists demand openly and the single-taxers unwittingly contrive—and still hold out part of the same cake as an inducement.

Fourth. If, as shown in discussing individual motives, the control of land with immunity from molestation is the only logical key to individual security, and therefore the most effective inducement of effort, the community is fully justified, first, in permitting the private ownership of land and, second, in making this ownership the guaranty of all intermediate inducements.

IV

It may seem a little arbitrary to assert that land-ownership is the only adequate guaranty of inducement; but this conclusion can hardly be escaped. The essential factors of value, as will be shown more fully later, are land-area, population and time; and with two of these, time and population, not subject to control, the third factor, that of area or foothold, then becomes the definite key to freedom, or value, whichever we care to call it. Henry George partially perceived this; but it is important to realize what both Henry George and his followers overlook,—*If land-ownership is the ultimate key to value, it is also the only valid key to our individual accumulations of value through extra-effort and utilized time.* Conceding freely the justification of his emphasis upon the power conferred by land-ownership, this is the very reason in the end why we will not part with this key to popularly elected wardens. If there is a proper charge for our storehouse, let it be on the basis of capacity, not of contents; exactly as in the case of any other safe-deposit. If the community is going to encourage individual deposits, it must hand over the key to the depositor.

V

Recognizing that individual interests and community interests are quite logically divergent, the former being concerned with effort and the latter with order, it should be apparent that a proper co-ordination of these interests will give, as a

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net resultant, a maximum measure of individual freedom, or, in other words, a maximum flow of value. To the zealot (or to the reformer who feels that his personal fortunes are best served by acting as a special-agent for the state), compromise between state interests and the interests of the individual may be abhorrent. It is compromise, however, that determines the unfaltering motion of the earth—the basis of all dynamic science. With growing experience, the community may come to realize that economic value arises from the just balancing of effort and order. It has failed to recognize this, owing to the fact that sovereign responsibility for the cost of order has been dispersed together with sovereign power, but has not been justly apportioned. It is passed on steadily down the line, until it reaches the most helpless and most involved.

The economic problem, then, which as stated earlier, is to develop, measure and distribute human energy, resolves itself primarily into the preservation of the community as a trustee of order, purely for the sake of the free movement of the individual. The community can only be preserved by the adequate production of current wealth, so that the initial and final task is the devising of ways and means for ensuring production, without destroying the personal freedom which has been our lode-star through all the struggle. The integrity of the functioning-power of the unit is at the bottom of all energy, and, lacking energy, control becomes an empty office.

As stated by Gilbert, who had sufficient sense of proportion to make a sound economist, the first step is "to make the punishment fit the crime," or, conversely, to make the recompense fit the work; and the striking of a just balance here will tend gradually to eliminate the hobos of our upper, middle and lower classes. How, without infinite supervision, can this be done by the state? It cannot be done by sudden attempts at drastic levelling which disregard all joint-undertakings entered into with those who worked in the past. This, for democracy particularly, would be a fatal betrayal of trust and there would result a lowering of morale, which would have an evil effect for years to come. Annoying as the idea may be to the re-

former, inequity, like rain, falls alike on the just and the unjust.

If land-area is held in few hands without adequate responsibility, the balance of the community faces the prospect of giving labor on the basis of sheer need, which is not a very happy outlook. As may be observed in such crowded centres as Pittsburgh or New York, this basis results in a maximum production of material wealth with a minimum of individual happiness. On the other hand, if land passes entirely to the state, the only compulsion left for unwilling labor is force of arms, which is the end of freedom and will divide society into two camps: official coercers and officially coerced, since inertia will be one of the most important modifying factors to be reckoned with when need and reward have both been eliminated by the reformer.

Avoiding these alternate dangers of permitting land-area to be controlled by a few, or consenting that it be held jointly by the community, if the foregoing argument is sound, the middle course is to encourage the maximum production of those who are not averse to work by automatic reward, *the value of which cannot be impaired* ("If the salt have lost its savor, wherewith shall it be salted"), and the maximum production of those who are averse to work by the logical pressure of necessity.

This is roughly the present condition of our tortuously moving stream of human energy, with all the dead water due to legislative debris and the friction arising from bad economic engineering. Our superficial palliatives designed to temper need and our genius for impairing reward, exemplified by our extravagant relief work on one hand, and our taxation and currency on the other, tend to cut down this flow. At every point we permit friction or introduce it, and the stagnant pools, even though they may take the fading colors of sunset, are breeding places of despair. Within these areas lie two of the most dangerous groups in democracy:

(a) Those who are reluctant to exercise effort, but, owing to our bad management, receive remuneration and avoid responsibility.

(b) Those who are eager to exercise effort, but fail at

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critical times to find an opportunity, owing to the same bad management which permits the former group to avoid responsibility.

It is in these backwaters that the silt tends to gather, impeding still further the flow of energy, but they can surely be dealt with by the community without adding again to the disastrous stagnation.

VI

As already stated, the definite function of land-ownership is not obvious, being obscured by our conception of land-value, since this value is vitiated by incalculable taxation and by its subsequent expression in terms of the dollar, a unit based, not upon measurable value, but upon a single commodity—gold—which is still the effective lever of men without a country. It should be emphasized again that the profitable domination of value through land-ownership, while fully apparent in our cities, is not apparent in the country,² owing to our erratic taxation, mentioned above.

The surplus products of labor lodge ultimately upon land and inure to the benefit of the holder by attracting population. This land, therefore, must be made the basis of all tokens of value and should, directly or indirectly, be the chief inducement and irrevocable reward of extra-effort, provided it carries with it the responsibility of power. This hope of reward, *together with the guaranty of its validity*, are the greatest factors of stability devisable. Our present economic discomforts are due to a partial application of this principle vitiated by whimsical taxation and the lack of any scientific means of measurement. We have abandoned economic power to the individual without attempting to measure the corresponding responsibility, and have granted the full right of bequest of this unbalanced power, a custom which has nothing to do with democracy. There is good reason to believe that bequest was originally concerned with the passing on of responsibility, and, in the days of the patriarchs, power was bequeathed to support this responsibility.

² See page 239.

The inheritance-tax is our first effort at empiric adjustment; but, as already indicated, there is the gravest danger of this being utilized largely for state aggrandizement, which will tend to make the logical and necessary rewards still more remote for our children. In permitting land-ownership we have done a good thing in that we encourage effort, but in divorcing this power from absolutely contingent responsibility in proportion to the population and the area, we have very much overdone a good thing, and to the confusion of all hopeful and normal individual planning we are today face to face with the condition that to those who have largely is given and from those who have less is taken away that which they have. Here is the seed of revolt.

CHAPTER III

AN ATTEMPT TO CALIBRATE ECONOMIC FACTORS

THERE has, perhaps, in the United States, been so much demand for the services of the engineer in the immediate task of making available for human habitation our great areas of land, that he has left the field of Economics largely to those who have not been trained in the art of measurement. If he now venture into this field, it is with a consciousness that certain professional economists, whether of the ecclesiastic or evangelic type, may be inclined to resent what they are likely to regard as an intrusion; and if some acerbity creep into the normally downright and impersonal diction of the engineer, it should not be regarded as a pretension to any special qualifications justifying his participation in politico-economic controversy, but rather as a belligerent reaction arising from his natural trepidation. Nevertheless, since so-called economists claim for their dicta the full rank of scientific truth they must permit these dicta to be examined with instruments of greater precision than a crystal, with its generally admitted possibility of varying interpretations. Such an examination cannot do any harm.

The engineer, no less than the economist, has faults peculiar to his profession. He is likely to be quite uncompromising when it comes to the necessity of brushing out a rose-garden for the sake of a clear sight, and is inclined to grow a little peevish over the drifting of Polaris; but he must always work out his last crucial course and close his survey.

The engineer will be the first to acknowledge that much work has been done in the way of courageous classification of multitudinous data, and the first to look for some tangible product which may be worth examination after the crucibles of controversy have cooled off. He has, of course, the definite

advantage of entering the field of economic enquiry after a great deal of the labor of the day is over.

As a matter of fact, the engineer who ventures in the economic field is much in the position of a transit-man who follows the long and patiently-sought route to the far-seen mountain gateway of a projected transcontinental road : he can check levels and estimates by triangulation from many hard-won clearings. With gratitude and admiration he traces the footsteps of a straggling line of pioneers : and since these were truly pioneers, pursuing varying paths, there are pathetic divergences to record as well as some very happy intersections. A few of these pioneers, because they did not tread identically the same path as the men who went before them, had to break new trails ; and for their toil and perplexity they claimed the reward of originators, treating their fellow-investigators with contumely.

From the standpoint of the engineer, the political-economists differ so widely when they disagree, they surely cannot all be right, and there should be no hesitation in saying so ; for we have to deal with economic explorers of the type of both Cook the Captain and Cook the Doctor ; but even for those whose bones lie bleaching far off the logical levels, the engineer can only have the deepest respect and should acknowledge frankly the clearings which have made his task so feasible.

There is one point which cannot be over-emphasized : a survey by triangulation will show logical termini and some obvious intermediate stations, so that the plotting of the long up-hill gradient on paper is a comparatively simple undertaking which may well result in a persuasive small-scale chart ; but some of the facile projections, however logical, may lightly bridge heart-breaking problems of excavation, fill and drainage ; and there is no one more ready than the engineer to acknowledge the cost and difficulty of this kind of work.

In going back over the contributions made to economics it seems evident that there has been in some instances a sense of unexplored territory sufficiently great to account for much mental wandering. But there are notable exceptions. Many of the writers, instead of merely binding the available data in separate sheaves and leaving it ingeniously piled in the rick,

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have shown a definite sense of the necessity of completing the operation of threshing and winnowing and thus ascertaining what was obtainable as a vital and final harvest, however meager.

Some of the more philosophic contributors to economic research, such as Adam Smith, Herbert Spencer and John Stuart Mill, have made invaluable contributions in the way of wider correlation; but to the engineer, with his trained predilection for unbroken logic, the earliest writer to make a strong appeal is probably Jean-Baptiste Say who, though he wrote over a century ago, is more consistent than many a modern writer. In the work of this man there is always the sense of a compact structure properly tied together. As a brief example, he avoids obvious confusion as to money by classing it, not as a unit of value, but as a commodity. This, under our present system, is logical even if not very satisfactory. It is easy to assert lightly, as some of his critics do, that Say is not original; but this after all is one of his credentials. There is more need of pruning in economics than there is of hybridization. Say cut back bravely till the trunk and branches were discernible.

In more recent times Professor Gide of the University of Paris has contributed work in which the vision breaks through and fluxes the detail of which he is master.

The evolution of Gide's "Theory of Political Economy" is most enlightening. The first edition¹ showed an eagerness to work back toward fundamental factors, and though the later editions² are more orthodox, they are as comprehensive, as full of useful tools and as nicely arranged as a ship-carpenter's chest. His "History of Economic Doctrines"³ written in conjunction with Professor Charles Rist of the University of Montpelier, is a multiple screen through which all preceding economists have been sized and classified.

From the standpoint of the engineer, however, the most

¹ "Principles of Political Economy," Charles Gide. 1st edition. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston, 1892.

² "Political Economy," Charles Gide. 3rd edition. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York, 1913.

³ "A History of Economic Doctrines." D. C. Heath & Co., Boston, 1915.

unsatisfactory aspect of this so-called *science* is the lack of basic co-ordination, the subsequent lack of correlation of its formulæ, and the resulting absence of sustained argument, free of apology or specious modification. Many of the argumentative flights seem to be but skilful circling. From the economic ark of Land-value, Labor and Capital—an ark which is anchored to nothing finite or measurable—the dove is sent out seeking for dry land and, finding no place to set foot, returns to its floating premises.

Most economists admit that economics is primarily a study of values. As Gide puts it, "The notion of value is really the basis of all political economy . . . in fine, works on pure political economy are in reality nothing but treatises on value."⁴ And further, "Value . . . therefore necessarily presupposes a comparison between . . . two things. It is a notion of the same class as size or weight . . . to obtain a clear idea of size, weight, value and all other quantitative notions . . . we must compare all things with one specific object which shall always be the same: we need one single term of comparison: in a word, we require a common measure."⁵ *Here, with a very precise statement of simple value, is a basic error, for economic value, the exertion of human effort, in the medium of matter, is not of the same class as size or weight. It is a dynamic value of the same class as energy.*

Economics as it stands today, therefore, is a quantitative science without a unit of value! In physics we have the foot-pound-second: in electricity we have the kilowatt-hour: and these, even if not absolute, do define energy in terms of the only constants we know, and give us some point at which to commence and some point at which to stop and tally. Few economic arguments have either beginning or end, and it is no wonder that they become tedious. Our scientific unit of weight is not *absolute*, but it is *constant* in its relationship to the mass of the earth. The kilogram, upon which various

⁴ "Political Economy," Charles Gide. 3rd edition, 1913, page 3. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

⁵ *Idem*, page 74.

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other units rest, is governed by the relation of the mass of the earth to the density of a definite volume of water, and this volume in turn is determined by a scientific unit of measurement—no longer the length of the King's thumb—but a ten-millionth part of a quadrant of the earth through Paris.* It will be seen then, that even our physical units are not absolute but relative. The kilogram, the weight upon which so much depends, where precision is concerned, is actually affected by the impingement upon the solar system of some far interstellar disturbance, by the contraction of the sun and planets themselves and by the slowly diminishing velocity of that great battery of dynamos in whose balanced and co-ordinated field we exist. These influences, however, do not affect the *relative* integrity of our physical units. But in economics we lack any scientific basis of value whatever. We hamper ourselves with a so-called unit of value, the Dollar, which bears no relationship to the fundamental limits which establish the equilibrium of our economic field. As a consequence, when the fluctuating values we desire to measure are determined in terms of our so-called unit, we find that our unit has fluctuated in a different degree and for entirely different reasons. We are foolishly endeavoring to measure one unknown in terms of another unknown—an old and hopeless problem.

The engineer, however, is quick to acknowledge that an enormous amount of invaluable work has been done by the economists under extraordinary difficulties, and the engineer of all men, is most ready to admit that anything in the way of a short-cut should be carefully scrutinized. As a matter of fact, he only presumes to challenge certain dicta on the ground that they are not correlated; for he knows that if economics is a science, then all its phenomena are integrally joined. Nevertheless, he enters the holy places very modestly, being aware that he has had no instruction as to whether he should take off his

* It may be asserted that the metre is an *absolute* unit; but this conception rests on an assumption that the volume of the earth is absolute. If a contraction of volume should be taking place, as is likely, it may be necessary in a few million years to establish a new "metre des archives" to prevent some very bitter disputes as to real-estate boundaries.

shoes or his hat, and that he may appear very awkward to a certain type of high-priest to whom genuflection at certain points has become second nature; but with this awkwardness there are certain advantages. The greatest advantage is this—he can commence his investigations free from the domination of an unbroken tradition in economics which has been maintained since the days of autocracy. There is no question that certain fundamental economic truths were very near being high-treason and as a consequence were emphasized exceedingly gently when originally discerned. To enquire with any insistence what taxation should be was to threaten the king's revenue: to investigate the flaws in currency was to question the king's honor: these were parlous diversions in those days, and there is justification for saying that, even today, a straightforward query as to such vital facts as an engineer would know for his guidance will set an old-fashioned economic ritualist shaking his head over the dangers of heresy. It is only necessary, for example, to ask what scientific sanction there is for measuring human effort, and freedom, its logical resultant, by means of ounces of gold of a fluctuating replacement-cost in terms of that same initial effort.

Let us get outside the noble economic edifice for a moment, with its wonderfully blended medley of architecture, its dim lights, its interesting historical associations, its rose windows and its lack of plumbing; and sit in the sunshine on some convenient tombstone in the churchyard to talk the matter out.

The most deplorable lack is a point of departure which will "stay out": we have no datum in the form of a measure of such values as we must discuss.

Our physical unit of weight is the relation between the fractional mass of the material of which it is formed and the total mass of the earth; and our just economic measure must also have this relative integrity, maintaining a constant value in the total pressure of the economic field. *Freedom—the power to move*—this is the only thing that truly constitutes economic value; for economic value in the last analysis is clearly our ability to maintain our freedom of motion in a field of in-

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evitably modifying pressure. What, then, are the logical factors, not subject to hazard or manipulation, by which the total pressure of the economic field may be measured?

It should be emphasized that this qualification of scientific factors of value is vital: *they must be factors which are not subject to hazard or manipulation.*

Now let us see what the political-economists have put forward as so-called basic factors of value to support their theories, and see how they were arrived at.

When the systematic study of economic data was commenced the whole weight of circumstances tended to make it a study of consequences rather than causes, since the arbitrary political factors were so inescapable, and so over-weighed the fundamental and scientific factors, that the nearest approach to approximation of the most important factor of all, at that time, was the king's obituary. This appraisement was not only post-mortem, making scrutiny rather charitable, but was also subject to censure if exactness were too closely reached. We must remember that the unfortunate investigators of that day had alleged "majesty," "power," "grace" and "virtue" (supported by adequate armed forces) all as barriers between economic factors and political factors, so that the latter—the political factors—were all that it was safe to use if the political-economist desired to pursue his researches in the bosom of his family. Now to the engineer, the autocrat who meddles with fundamental factors is no better than a drowned rat in a drain pipe, as far as the measurement of flow is concerned. To avoid any unfairness it is only reasonable to add that democracy has many obstructions in its system today in the form of bureaucrats; but individually these are easier to dislodge. Our chief disadvantage is their number, which tends constantly to increase.

What was there to measure in those days? As a basic economic factor *Land-area* was hardly worth measuring, so few were the freeholds and so close was the possibility of acquiring new territory by appropriation and conquest: *Land-value* could be no better measured then than now—there was nothing to measure it with that would stay still. *Commerce* worked deviously under royal charters, with the king's mistress as a

silent partner: *Labor*, even in its so-called golden era, operated through closely-guarded guilds that made, gratis, a few shoes or nose-clouts for the king, and made economic fools of everyone else; *Capital* was reinforced by autocratic franchise and was brazen, or it was unprotected and secretive. It was at this point that the political-economist started in to assemble his "scientific" data, with a courage and optimism that almost moves one to tears. Every factor was vitiated by an unknown arbitrary component.

Suddenly, at isolated points, the smouldering fires of revolt blazed out and swept away the underbrush—a purging fire doing much immediate material damage but letting in the sunlight on dangerous bogs and loathsome thickets. A great deal of so-called majesty, grace and royal highness was swept away; and it might have been possible at that time to get down to fundamentals and do some sound measuring; but all was not lost to the old order; the ritualists came back with all their formulae intact, and built up again the sequence of their creed. That few save unfortunate and unwilling school-children or older neophytes have ever attended their carefully intoned services has never bothered this type of ritualist: it was enough to definitely impress a few superstitions on the young mind to act as an automatic check to clear thinking in any later emergency, and thus maintain their position.

As a matter of fact, it would appear that the valid and measurable factors were either ignored or obscured; but, from time to time, some zealous nonconformist has gained a following, by realizing and emphasizing the importance of a single factor. These contributions were occasionally vital, but more often were colored by a notion of advantage to a particular class, or by some vain desire for a miraculous amelioration of the lot of all humanity.

In this way the Physiocrats emphasized one phase of *land*—namely its productive power. Herbert Spencer and John Stuart Mill emphasized the vital importance of all land to organized society, and questioned the validity of individual title. Henry George saw its power of domination, though he added to the primary economic significance of land-area many

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enrichments which defy calculation, and normally are resultants of labor.

Labor, emphasized first by Adam Smith, and glorified out of all proportion by Karl Marx, was in its turn regarded as the only clue to sound economic reasoning. In due course other incalculable phases of effort such as invention, risk, organization and uncertainty-bearing, had their excited discoverers, though all these phases of labor are quite impossible to measure.

At intervals, the factor of *Time* came under examination, largely due to consideration of the ethics of interest. Böhm-Bawerk, W. Stanley Jevons and Irving Fisher have all properly emphasized the claims of this primary factor, as will be shown more fully. Time must be taken into any basic calculations, and immediately interests the engineer, as we have the means of measuring it.

The list of "economic factors" put forward is much more lengthy than this and it would be entertaining to examine in detail; but in spite of the tendency to respectfully modify the conventional trinity of Land-value, Labor and Capital, many of these schisms do not make for clarity, nor do they command anything but scattered attention from the more orthodox economists. To the engineer very few of them seem to comprehend the essential importance of *exactness* or what for emphasis might be called "measurability" as a qualification for a valid factor. To paraphrase the elementary logic of the nursery-rhyme—

"How shall he marry without any wife?"

"How shall he cut it without any knife?"

we might well say,

"How is time tallied without any dates?"

"How shall we weigh things without any weights?"

Some of these departures from ritual, however, are exceptionally interesting and have the same significance as the first protests against the rudimentary and semi-mystic conceptions of chemical reactions.

Ely starts very cautiously by stating, "It has been customary to speak of three factors of production—Nature, Labor and Capital." He does not protest strongly against this ill-assorted group of factors which include infinity in the guise of Nature, except to point out soundly that "Capital cannot be looked on as an independent factor of production since it is derived from the labor of man applied to nature." From this point on he examines with great care and with great lucidity a long series of consequences which arise from the interactions of labor and capital within the infinite theater of nature. When he arrives at the examination of interest he comes within a hair's breadth of putting forward the simple factors of dynamic human energy, stating, "so the ultimate factors in production may be said to be land, labor and waiting."⁷

How can waiting be measured except by time? It is as though he stated the truth under an opiate without perception of its dynamic significance; for it goes without saying that if waiting were a factor of production, most of us would be very rich. It is not waiting he means; for such waiting is simply the apparent loss of time involved in the maneuver of calling forward the reinforcement of capital with a view to subsequent haste or saving of time.

The pressure of population upon area enhances the importance of time as a factor in a closely organized community; and it is in the examination of the phenomenon of *interest* that the economists come closest to comprehending the vital significance of *time*.

The consideration of interest forces us to recognize the factor of time, and it is in the investigation of interest—the effort bid per hour for the jeopardized freedom of others—that we shall later come across a group of dazed but courageous economists holding the factor of *time* at arm's length as bachelor uncles bravely but awkwardly handle a baby, not actually denying its legitimacy, but very puzzled as to its uses.

Böhm-Bawerk, in spite of his keen interest in Time, em-

⁷ "Outlines of Economics," Richard T. Ely. 3rd edition, 1918, pp. 119, 121, 552. The Macmillan Co., New York.

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ploys only two primary factors: Nature and Labor. Here we are again left groping at the very outset; for while Labor under certain conditions may be approximated by population, how can we measure Nature? We are given infinite Nature and one of its phases as factors, but the product of these two can only be infinity, which leaves us, not dealing with a science, but wrestling with metaphysics.

Marx, as already pointed out, employs one factor only, namely Labor; but this is propaganda, not science, and is as though we were to attempt to measure heat by heat, or electricity by electricity. He leaves us with the problem of calculating a dynamic value of one dimension—apparently simple, but utterly hopeless.

Marshall⁸ adds to Land, Labor and Capital, the factor of Organization, but this, as he utilizes it, is simply a division of labor into two indefinite complementary parts, one physical and the other mental, which only adds to the confusion.

Jevons, in spite of his prophetic encouragement to the engineer and his intelligent interest in *time*, starts his "Theory of Political Economy" with the statement that Utility, Wealth, Value, Commodity, Labor, Land and Capital⁹ are the elements of Economics.

Time is not mentioned in this so-called elementary list, so that, however lavish, it is not as comprehensive as it appears. To get an idea of its appeal to a scientist let us approach him with a statement that the elements of electricity, by which we are to determine the advantageous control, measurement, development and distribution of electric energy, are as follows:

UTILITY (The facilities provided by curling tongs, electric toasters, arc-lights, street cars, etc.):

WEALTH (The realizable value, in terms of a fluctuating unit of value, of all power, all power-plants and the product of all power-plants):

* "Economics of Industry," Alfred Marshall. 2nd edition, 1881, page 107. Macmillan, London.

• "Theory of Political Economy," W. S. Jevons. 4th edition, 1911, page 1. Macmillan, London.

VALUE¹⁰ (The sum, in terms of a fluctuating unit of value, of all the annual power bills of the United States):

COMMODITY (The products due to the utilization of electric power which are available for exchange):

LABOR (The number of fluctuating units of value shown on the consolidated pay-rolls of all companies, with some question as to whether the engineers and managers should be included):

LAND (Let us say the total conducting medium employed for controlling, concentrating and redistributing the power, with much emphasis on its composition); and

CAPITAL (The number and price, in terms of a fluctuating unit of value, of all new and second-hand generators, transformers and motors, as well as almost everything else already included in Wealth and Commodity, even if we ignore the quarrel between those who would include Land, and those who won't).

This generous list of so-called elemental factors is enough to keep the electrician calculating aimlessly for the rest of his life. Yet they are as parallel as may be to the medley of factors that preoccupy the economist. He may insist upon using them with devout and tremulous hands—but he must not insist upon our interest in his findings.

The electrician would brush all these away and would call for his well-calibrated instruments of precision which are nothing more than elaborations of the foot-rule, the balance and the chronometer. He would request the economist to take away his inventory and guess again at available energy by making some toast for the next meal on the electric toaster, and calling it capital, his prime factor.

At this juncture it is advisable to give the reader rest by changing the picture. In trying, with the best intentions in the world, to extricate an economist politely, the rescuer sooner or later goes down for the third time into the weedy depths with the struggling object of his pity and is lost. The results are a

¹⁰ This characterization of *value* would not be fair if Jevons himself had not ranked it with commodity, wealth, labor, land and capital.

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surge of mud-clouds impinging on the matted surface of the stagnant pool, a few bubbles, and a faint ripple that reaches the bibliographic shores. The public loses sight of the two struggling victims till some poaching economic heretic with his dynamite gets past the academic gamekeepers and brings up the two melancholy corpses locked together in their death grip. It may appear very rude to choke the unfortunate economist you are trying to bring ashore; but the gentle methods of the academicians in dealing with each other have not been effective; and it is all rather uninteresting to the spectator, who would have liked to see one or the other of them reach firm ground.

In unwritten faculty records there is a legend of a brilliant mathematician whose constant war-cry was "You must not measure power with potatoes!" And in worthy exasperation he has been seen to hurl a full two-pound box of blackboard chalk at an embryo political-economist who tried it.

Here is the danger: we can approximate the effective energy of any system by its product, *provided we know accurately all the factors of friction and leakage*. By this method we could measure the horse-power of a tractor in terms of a commodity unit made up of the number of pounds of baked potatoes remaining unconsumed by a farm-crew—if *everything else were constant*—but we would not expect anyone but a political-economist to tackle the problem by this method. The proper procedure is to measure the normal resistance, the density and velocity of our expanding gases in grams and seconds, and the area of our cylinder in cubic centimeters,—and then start an enquiry into the reasons for the shortage of baked potatoes. The answer may be in terms of friction, faulty ignition, lack of lubrication, potato-bugs, eelworms, drought, sabotage, or a thieving or wasteful cook; but all this is simply an analysis of lost effort. Above all else in economics it is the tragic delay in devising a unit of value and in subsequently tracing lost effort that brings it under impeachment by the engineer. If economics is a science, let us get down to fundamentals as in any other science whose object is knowledge and measurement. If we are going to employ factors, let us at least employ factors

of measurement which themselves are measurable. If this is too much to ask, then economics is not a science—it is a dubious ritualistic art with the scope and the patter of astrology.

Gide in the impetus of his logic, actually went through and beyond his goal; in the first edition of his work on Political Economy he employs one fundamental factor, Labor, and five basic contributing agencies, namely:

Raw-Material
Ground (or superficial area)
Time
Tools (or capital)
Environment

With creditable reluctance he then groups these under the three classic heads of Land (or Nature), Labor and Capital.¹¹

By applying the test of "*exactness*" it becomes obvious that only three of these are valid factors, and it is much more than a coincidence that these three—Labor (defining density), Ground (defining volume) and Time¹² (defining duration of effort), are the ultimate limits of any phase of energy and the essential factors of dynamics.

Let us examine Gide's factors, one by one, and see where they lead us; for, barring his failure to consider the basic cost of overcoming resistance, his conception is more than comprehensive, and if we rearrange his factors we shall see that what he has proposed is to include the environment with the reaction, the crucible with its contents, and in addition has added one of the expected products, namely Capital.

Labor, or effort, is vital and under self-government (as will be shown more fully later), is measurable in terms of population and is therefore a true primary factor.

Raw-material cannot be measured—

¹¹ "Principles of Political Economy," Charles Gide. 1st Edition. Translation by E. P. Jacobsen. D. C. Heath & Co., Boston, 1892.

¹² At this stage in the argument the normal *total* exertion of effort to overcome resistance, in a region of self-imposed order, is assumed to be *constant* in relation to population. If a scientific unit is available, Time may also be used to measure relative effectiveness.

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"Who hath measured the waters in the hollow of his hand and meted out heaven with the span and comprehended the dust of earth in a measure and weighed the mountains in scales and the hills in a balance?"¹³

All matter is raw-material, and all matter, to the uttermost ether, or the furthest cooling star, is, almost without doubt, a varying phase of energy in swaying equilibrium, so that it becomes an aspect of our environment, and from this point of view, or any other, cannot be measured.

Ground is land-area, constant and measurable, a true primary factor.

Time is also constant and measurable, and therefore a true primary factor.

Tools are a useful part of capital and capital is obviously a product of energy—not a primary factor—as Gide himself agrees.¹⁴

Environment is space and matter, both of them quite important conceptions, but clearly not subject to concrete measurement.

A rearrangement of these factors put forward by Gide may now be made as follows:

The field of action—

Environment and Raw-Material, or space and matter.

The factors of action—

Labor, Ground and Time.

The Product—

Freedom or Value (of which so-called Capital is one important but much over-emphasized item).

Thus Gide gives us clear-sightedly the three measurable factors we need, but beclouds his dawning logic by throwing in too generously, first, the environment, which is not susceptible of measurement, and, second, a partial product which is not worth measuring; for if economics is a science, its essentials existed before its consequences.

¹³ Isaiah xl, 12.

¹⁴ "Political Economy," Charles Gide. 3rd edition, page 65. D. C. Heath & Co., Boston, 1913.

With all these interesting contributions, there was also much in the way of devout star-gazing, with a consequent introduction of factors such as "*natural-bounty*," "*natural-forces*" and "*social-products*," which to the engineer appear too metaphysical to be used to vindicate the claim that economics is a science. In addition to all these, through thick and thin, there has been the disposition already noted to dwell upon the importance of capital. Capital is an important product of economic forces but not a primary factor. This cannot be too strongly emphasized.

Now, out of all these contributions to our list of primary factors, which can be measured? Obviously, only land-area with a foot-rule, population by a census and time by a chronometer. With this list of basic factors which can be calibrated, economics begins to look distinctly interesting to the engineer, who was apt to grow a little melancholy under the purely comparative approximations of psychology and metaphysics.

We must remember that we are sitting outside in the sun and have withheld judgment for the moment as to the value of the ancient formulæ. We are dealing with superficial speculations which claim the rank of science; but we have found that all just appraisement is halted by the lack of a logical unit of value.

Let us now try to get a clear picture of the economic field. The simplest conception is that of a closed vessel with two main ports or valves: first, that of birth or ingress, with an intermediate pressure-chamber or lock, walled off by humanity for tender youth, and second, that of death or egress, approached by its own intermediate pressure-chamber of old age. All that enters or leaves this main high-pressure area is the spirit, that human unit of energy with its normal positive rotation, quick or sluggish as the case may be, but driven ever by its need of physical freedom and lured by its inducement to amplify that freedom. This unit may be expressed by Figure 1, as a miniature organism always revolving and always tending to expand by centrifugal force (see page 53).

The whole economic zone itself, with its fixed base of land

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and its unyielding boundary of time, is like some gigantic gas-tank, such as we see in every city, capable of rising inch by inch as the effective effort increases.

Curiously enough, it is Jevons, the mathematician, who quotes with approval Bastiat's description of the economic circle as being expressed by Wants, Efforts, Satisfaction.¹⁵

This, however, is only a partial truth—a misleading detail in the cycle. What we require for comprehension under democracy, or a zone of self-imposed order, is a general phrase as follows:

Effort—Value—Freedom.¹⁶

"Wants, Efforts, Satisfaction" is a closed circle of no further economic value, since it involves *satiety*—a sensation which, whether we like to think so or not, has little place in democracy.

Economics, as pictured by the phrase, "Wants, Efforts, Satisfaction," gives too sharply the picture of an animal searching for food and, having exerted that effort, lying down fully gorged. It is most interesting that this image should have proved satisfactory to a school of political-economists who were deeply concerned with *capital* as a prime factor. "Wants, efforts, satisfaction" provides no capital: everything is consumed, unless there is an invisible figure in the picture blessing the God-given "wants," minimizing the "satisfaction" and discreetly storing up a little capital with each daily round of the "economic man" who exerts the vital "effort." Possibly their failure to paint in the central figure is due simply to the fact that political-economists are not scientists, but in the nature of the case are rather humble loyalists who have not ventured into the middle of the picture.

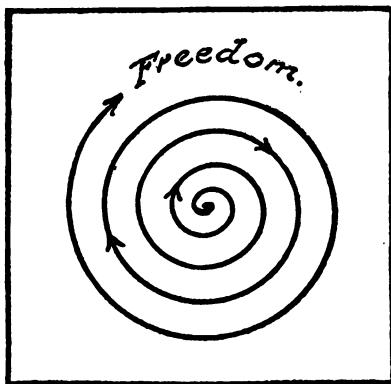
What we much more nearly have is a situation which may be better pictured by a snow-fed stream, perpetually renewed

¹⁵ "Theory of Political Economy," W. S. Jevons. 4th edition, page 41. Macmillan and Co., London.

¹⁶ With the essential proviso of self-imposed order, this philosophical statement of the case has a familiar sound to the student of dynamics. Effort modified by its medium, in any given area, equals value, or in more familiar setting, value is directly proportionate to the effort exerted in a given area, and inversely proportionate to the resistance of that area, or
 $V = \frac{E}{R}$, or Value = $\frac{\text{Effort}}{\text{Resistance}} = \text{Freedom}$.

upon the mountains, and perpetually forcing its way to the sea—a never-ending cycle where effort and freedom are in direct relation, and have only to be consolidated by order to provide us with a measurable flow of value.*

Figure 1



But even Bastiat's image of the satisfied animal is better than the implied picture, upon which many generations of students have been brought up, representing the whole economic tableau as a kind of egg-laying performance, where there may be a rough approximation of the *number* of eggs, but the *size* of the egg is governed by the mood of a spotless white hen. Labor, in this tableau, is the lean choreman who tends the hen, and for his share receives a disappointing portion of these variable-sized eggs, which are set apart in a "wage-fund." Capital is the hen herself—a magnificent white super-hen, waxing ever fatter on a diet of the crumbled yellow yolks of her own hard-boiled eggs, together with the product of the land on which she rests; and this land, to make up for its failing virtue, is constantly fertilized by the egg shells, the feathers and the nitrogenous by-products of the hen.

The pictures of the pressure-chamber and the stream, though they avoid much complicated detail, are probably closer and

* See Frontispiece.

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more useful approximations of the economic field than the highly colored picture of the sacred hen. They are, at any rate, easier to deal with in scientific terms which can be generally applied.

We have found then that our only *measurable* factors are population, land-area and time; and realizing that these define density, volume and duration of effort, with the very general conception of the unquenchable human desire for individual freedom as the motive force, the interest of the engineer is further quickened. Economics begins to have some of the familiar aspects of a science.

To approach economics with a tally-sheet for population, a steel tape for measuring area and a trustworthy chronometer, may appear completely heartless to a fervid sociologist; but it is no more heartless than the response by an intelligent administrator to an appeal from a fever-stricken district when he sends in a surveyor with his instruments with a view to drainage. For those whose children are tossing in fever, the benevolent quack, or sympathetic clergyman's wife with chicken soup and jelly, may seem much more adequate response; but we have suffered in economics too much already from soup and jelly.

At any rate, we have reached the point where we have three measurable factors to work with. Now let us see whether the employment of these is rank heresy. As a matter of fact, Labor, including both mental and physical effort, has been validated by most of the sound economists. The only innovation proposed is to give it free way, as democracy designed, and measure it by population. Land-area, or room, has been specifically emphasized by Charles Gide. The *value* of this area with which the single-taxers are so much concerned is measured justly, not by appraisers in terms of a fluctuating unit of value, but, under democracy, by the free population attracted within its boundaries. The factor of Time has been put forward positively by Böhm-Bawerk, Jevons and Fisher.

If there is an appearance of heresy it is due to the fact that all imponderable factors have been rejected; and it is insisted that if the three factors, Labor, Land and Time, are basic they

shall have the right to appear at all points and not be relegated to special uses in argument. Curiously enough, while the three eminent economists mentioned above, with their quantitative aspirations, are all eager to discuss the factor of Time at one point or another, they appear to regard it, not as co-important with Land and Labor, but more as a special factor to be used in gauging the rights of capital in terms of interest. We have no concern at the moment with capital, which is one partial resultant of the interactions of Labor, Land and Time.

Jevons is distinctly encouraging, and there is good reason to gather confidence from the following pregnant sentences which invite the unconventional approach of the engineer: "But I believe that dynamical branches of the science of economy may remain to be developed, on the consideration of which I have not at all entered."¹⁷ And further: "The notion of value is to our science what that of energy is to mechanics."¹⁸

Now the justifiable contention of the engineer is that with the advent of democracy, or self-imposed order, and *the liberation of effort within fixed political boundaries*, economic value became obviously dynamic, and we must rearrange all our conceptions. At that stage in economic history newly freed forces came into play within specific limits, and all the factors of dynamics are necessarily involved thenceforward.

The laws of dynamics deal with forces and motion, and cover both statics and kinetics. What in the last analysis must scientific economics deal with if not the value of liberated human effort confined within the orderly limits of democracies? How can we measure the duration or effectiveness of liberated human effort within such an area without the use of time? How shall specific value be measured except by the free expression of effort, just as potential difference is measured? In the very simplest terms the *value* of a slice of bread can only be measured by the orderly effort free men will expend to reach it after being galvanized by time in terms of desire.

The comparative values of slices of bread and gold-outcrop-

¹⁷ Preface to "Theory of Political Economy," W. S. Jevons. 4th edition, 1911, page vii. Macmillan and Co., London.

¹⁸ "The Principles of Economics," W. S. Jevons. Page 50. Macmillan and Co., London, 1905.

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pings might, if we had suitable instruments, be measured by the "moment" of the two forces of need and desire, with the resultant "torsion" on the hungry man who stands halfway between the bread and the prospect. *And the interesting thing to realize is that we have not only a suitable instrument; but a most accurate instrument, namely, a dial which is national area, graduated in terms of population-density, with the very sensitive indicator of individual ownership.* To the question "What is a thing worth?" the answer is the tax-paid, fractional area enriched by population which is placed in jeopardy to secure it, with the full knowledge that no political power can alter the dial.

Surely, the obligation laid upon the economist is the study of the control, measurement, development and distribution of human energy, whether the product of that energy is capital, utility, wealth, or human happiness; and this is still more urgent and obvious if the net resultant should be a minus one, or human wastage and misery. Energy can never be measured in terms of its product; and it cannot even be approximated if our archaic conventions tend to baffle and impede it. The value of human energy and its various resultants cannot possibly be measured except in a region of self-determined order, and then only in terms of its ultimate fixed limits—Population (defining density), Land (defining volume), and Time (defining duration of effort).

Now if these three fundamental and measurable factors were actually employed to measure potential value: to assess individual responsibility in terms of taxation (the cost of order); and to calculate the total resulting value, and the fractional values which are expressed by our currency; there might be some ground for claiming a scientific basis for applied economics; but to delegate today, exactly as we did in the days of autocracy, the incidence of taxation to fallible, arbitrary and incompetent human judgment; the final control of the resulting value to private or alien owners of massed gold; and the calculation of our necessary currency to political agents, who cannot keep their hands on these owners, is as little scientific as can be.

Political-economists may claim that their careful examination of the precise products of several indeterminable factors has been conducted in a scientific manner and has many interesting results; but the scientist can only look on the whole performance as a morbid and useless diversion. What the latter misses is any hope of closing an equation, even in the most general terms.

Sanity, or wholeness—is not this, in the end, the confusing lack in economics; and is it not this lack which leaves such phenomena as interest, rent, taxation and currency absolutely unrelated to basic economic value, so that when a political-economist reasserts that the art of taxation is the art of getting the feathers without the squawk, we are almost disposed to grant him the rank of scientist without further question, though all he has earned is the rank of cynic?¹⁹

Under our present system the final determination of value is left to international owners of massed gold, while taxation,—the cost of overcoming resistance,—and currency,—the measure and pledge of value,—are still as subject to the whim of an uneducated legislator, guided perhaps by some sentimental dealer in political junk who wrongly calls himself an economist, as they were to the caprice or needs of an astute autocrat. All these authorities are likely to go wrong for totally different reasons: The controller of massed gold operates internationally: the legislator is not always held by scientific compunction: the political-economist²⁰ has no unit of value; and while politically we are free of the autocrat, we are, nevertheless, still jerked to our knees at intervals by the sudden strictures of the international gold-standard.

Because of lack of comprehension of the measurable basic factors of national value—land-area, population and time—many civilized countries today stand panic-struck. Essential

¹⁹This has been well pointed out by Dr. Rowland Estcourt in his "Conflict of Tax Laws," page 128. *University of California Publication in Economics*, April 2, 1918.

²⁰A very definite distinction should be drawn between the political-economist and the economist proper. The political-economist, like the astrological-astronomer, the alchemistic-metallurgist, the centaur and the mermaid, is almost bound to disappear, as we recognise the dynamic significance of national equilibrium, or self-determination.

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value, based on these factors, is ample for all reparation, all liquidation and a new start. We crouch frozen with fear, because we are poor in terms of gold and the world's voluminous currency has been diluted till (in terms of gold) it has little so-called value. We have hypnotized ourselves by looking too long fixedly at a small pyramid of burnished bullion which for the present stands fenced in the centre of ample fields encircled by waiting labor.

What peace we enjoy is the stillness of bewilderment, but it holds many intimations of stampede. The more orderly nations, if circumstances are not too much for them, are still held by the threadbare convention of the dominance of gold; but gold, as an arbiter of value, will be repudiated when it is fully realized by those who suffer rather than gain by the convention, that it interposes arbitrary barriers to the free flow of human effort. It does not need a historian—it does not need even the oldest inhabitant—to predict what is going to happen, when crevice after crevice appears in a long-standing dam subject to increasing pressure, even though it has performed the utmost service in the past.

If, today, in countries such as Germany and Austria, it could be realized that the value of land-area and order could be set against their enormous volume of currency, and their unit expressed in terms of square feet—or square inches, for that matter—of national territory of average population-density, definitely linked with their proportionate responsibility for the maintenance of order, then both marks and kronen would become unimpairable tokens of national value, and internal activity would be accelerated by confidence. And the difference between the United States and these unfortunate countries is only one of degree.²¹

^a See page 198.

CHAPTER IV

A DYNAMIC THEORY OF ECONOMICS

THIS theory is arrived at by taking certain elementary precautions in considering the problem of economic value, which is apparently complex, but, if considered generally, is parallel to all other values arising from motion or effort within measurable limits. The only difference is that instead of dealing with solar energy, electric energy or radio-activity, we are endeavouring to measure human effort in the medium of matter,—a phase of effort, which, in spite of its egoistic springs, has, in a region of self-imposed order, a calculable flow, impelled by the bare need of physical freedom, and induced by the reward of ampler freedom.

Upon this assumption, at the risk of seeming ungrateful, let us ignore, for the moment, the brilliant and painstaking work of the economists—admitting at the same time, in their dogged hold on wriggling politico-economic phenomena, they have actually so hemmed within a limited area the data we are seeking, that there is some point of contact with each of them if we step boldly into the space which they now surround shoulder to shoulder in their zealous approach from every direction.

Since human effort is the vital force with which economics is concerned, let us see whether, in the consideration of certain of its phases, by using primary factors which are *measurable*, some simple formulæ may not be arrived at; and then, because of the employment of common terms, whether these formulæ may not be fittingly assembled as a basic theory capable of general application :

First. That land-area, population and time, in a region of self-imposed order, are the basic factors, or limits, of economic value.

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If economic value is the freedom arising from effective human effort, in the medium of matter, then there are only *two* basic contributing agencies mathematically involved in its measurement: one is the prime impulse which springs from need or inducement; the other is resistance.

However, if we desire to take advantage of scientific procedure in the art of measurement, we must be able to state both impulse and resistance in terms of common dimensions before the resulting value can be measured. These dimensions, or limits, are human effort, area and time, which express potential motive-force; and loss-of-human-effort, area and time, which express resistance.

The surprising fact is that such a contention is only novel in one branch of science—the so-called science of economics.

The economists usually state that land, labor and capital are the elements of economic value; but, from a scientific standpoint, capital can be resolved into several basic factors, and to consider it as an element is to maintain the confusion which it introduces into all calculations. Superficially everyone is agreed that land and labor are basic elements; let us consider then what capital is, so that we can dispose of its primary claim. The usual example given by the political-economists is that if a man is about to commence any operation, he has to consider three basic costs, namely, rent, wages and interest. For the sake of argument let us assume the following:

Rent is the value bid for land-area per unit of time.

Wages are the value bid for human effort per unit of time.

Interest is the value bid for *money* (or certified value) per unit of time.¹

Now let us suppose that capital is not available, as is often the case outside the economic textbooks; how shall it be created if it is essential? Obviously by the operator in question applying his own labor per unit of time, directly or indirectly, upon land, consuming less than he produces, as does the persistent leaser in preparation for a farm of his own. He pays rent and

¹ It seems pertinent to point out that *Taxation*, the value bid for *order* per unit of time, is not included by the ritualists; and that what they call *rent* is often the payment for depreciating goods; but let us withhold these exceptions for the time being. Compare page 135 *et seq.*

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exerts effort, limited by time. He now turns again to his desired undertaking and, once more, figures rent and wages together with the interest on his painfully acquired capital, so that the estimate of his costs works out as follows: Rent *per year* for land, wages *per year* for labor and interest *per year* for his accumulated capital. But this capital, as we have seen, was the product of his own labor *per year* upon land, so that we have only three elementary factors involved which are themselves measurable, namely effort, the source of all value, which may be measured as a whole by population, Land, the area within which that effort is confined; and Time, the measure of its duration.

In reality, capital is a product designed purely for consumption, and has its dynamic function as an inducement of effort, or else it is a depreciating facility, justly credited (while it lasts), to its creator, capable of accelerating the flow of effort which may be thwarted by its lack. Let us take the electric broiling of a squab to illustrate an inducement of effort; and the electric welding of a street-car track to illustrate a facilitation of effort.

Having shown briefly that capital is not an element, but a secondary product of effort limited by land-area and time, within the theater of Nature, let us consider separately these three factors and strip them, if possible, to their vital and elementary significance.

Land. The importance of this factor rests upon the circumstance that it cannot be increased by any art or policy within the given political boundaries with which democracy has to deal. For the measurement of effort it provides a simple factor in square inches, namely area, which, in combination with population is what we need to ascertain the "*occupancy-value*," "*pressure*," "*head*," or "*potential*," whichever we care to call it. However, in speaking of land the same kind of unscientific confusion has crept into economics that we have found in discussing capital. The only constant and measurable quality of land is its superficial area, and the importance of this varies with population, exactly as the importance of the area of any

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other physical container of energy varies with pressure. Gide perceives this when he defines the factor which he calls "ground" as "a superficial extension . . . a certain space, were it only to stand on," adding, "now this question of 'room' becomes very serious as soon as the population of a country has grown sufficiently dense."²

Many political-economists of the alchemist type are inclined to complicate this definite mathematical quality of land with other values, liberated by past labor, which are either general facilities resulting in the elimination of friction, or else are justly-owned capital, or stored effort. In either case, owing to inevitable duplication or decay, they are impossible to measure scientifically except by the free flow of population; and they lead us into endless difficulties if we attempt to measure them in any other way.

The trouble with the romantic economists is that they cannot mentally separate their quart measure and other people's strawberries. The added capital-values of realized effort have been bought, sold and exchanged in good faith: they have nothing to do with the initial flow of human effort, though they have a great deal to do with its subsequent effectiveness and its *path*.

Nearly all the advocates of single-tax contributed to this error: Patrick Edward Dove includes with land, the mines, the forests and the fisheries; Sir John Macdonell includes mines; Edward McGlynn speaks of the "natural bounties which God gave to the community in the beginning"; Thomas G. Shearman includes "natural advantages"; and Fillebrown emphasizes "natural resources such as gold, silver, copper, iron and coal mines, oil fields and water powers"—and then performs a complete somersault and instead of classifying them as divine favors, includes them with those "social products which make ground rent a special privilege." It is a most misleading error and is what has stood so long in the way of just taxation. If copper, silver and gold made up the gravel of our streams; if oil flowed gently from convenient springs; and if our forests marched in orderly ranks along our main

²"Political Economy," Charles Gide, 3rd edition, 1913, page 99. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

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streets and fell apart at a word into lumber and kindling, we might be justified in distinguishing these things from all other forms of matter by calling them *natural bounties*, even if we felt doubtful about calling them *social products*. As a point of elementary logic, if we reverently credit these realized advantages to the Creator, or to society, we should then, less reverently, debit to the same accounts the lost lives of prospectors who have died of thirst, the scattered savings of over-hopeful mining investors, the costly dry wells of the oil operator, and the disastrous financial record of railroads which have prematurely reached out for timber and similar raw material. The clay of yesterday becomes the aluminum ore of tomorrow. Is this change due to natural bounty or human effort?

These things are neither "social products" nor spasmodic gifts of God. From an economic standpoint they are phases of our environment to be made available for use only by the expenditure of new mental or physical effort, governed by the limitation of time and the fixed area of land.

Gide, even though he uses Environment and Raw-material as factors, saw this clearly, and states, "thus even with wealth which is termed natural, labor is seen to be a real agent of production; for without it such objects would be virtually non-existent for us."³

Area, then, is measurable, and thus qualifies as a valid quantitative factor. Other land-values are not measurable; but it should be obvious that they contribute to the basic importance of land-area by attracting another accurately measurable factor—*population*—thus creating the clean resultant we desire, that is, occupancy-value.⁴

When land, then, is spoken of here as one of the basic factors of value, it must be clearly understood that what is meant is

³ "Political Economy," Charles Gide. 3rd edition, 1913, page 110. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

⁴ In considering any adjustments, however, we must take into consideration the fact that this occupancy-value of land, determinable by the pressure of population, has also been bought, sold and exchanged in good faith; and the citizen of a democracy who has exchanged his labor and his time for "value" is entitled to fair play whether he calculated on potatoes per acre or population per acre, if either of these factors created the market value of his land.

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land-area, the only quality that can be measured without dispute. To attempt to measure the other varying so-called values of land in terms of a fluctuating unit of value is piling confusion on confusion.

Land-area, then, is not value; but it is a measurable dimension of value.

Labor. This factor has been defined by economists with the utmost finality and prejudice in some cases, and with the utmost caution and open-mindedness in others. Adam Smith calls it the original purchase money that was paid for all things. Gide rejects it as a measure of value because we have no dynamometer by which to measure it.⁵ With this significant word "dynamometer" he showed that he saw what was needed; but he concludes that we have to be content with gold and silver as measures of value, though he states that we may try to rectify the errors to which they give rise. The Physiocrats reserved the term labor almost purely for the gleaning of the products of land, disregarding more important mental effort. Fourier, the economist, distinguishes between attractive labor and painful labor, as though the functions of the North and South magnetic poles had some competitive claim to consideration—yet he was very close to an important truth!⁶ Karl Marx insists that the value of any article is the amount of labor necessary for its production, and that *value* is human labor crystallized. Value is so definitely human labor in motion that this is very like insisting upon hydraulic value being delivered at the tradesman's entrance in forms of blocks of ice, so that it may be weighed and measured.⁷ Marx came much nearer the simple truth when he stated that the quantity of labor is measured by its duration. Here is a spontaneous recognition of the factor of time. When he speaks of the intensity of labor he seems almost to recognize the equally con-

⁵ "Political Economy," Charles Gide. 3rd edition, 1913, page 61. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

⁶ See page 66.

⁷ Robert Sibley, editor of the *Journal of Electricity*, published by McGraw-Hill Co. of California, San Francisco, in explaining to the layman the significance of a foot-pound second, gives him this picture of blocks of ice.

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fining factor of the area within which that labor must operate, or the true land factor; but what he meant by intensity was effectiveness, which is not measurable until we have some stationary unit of value.

As one of the three basic factors by which to measure value, what is now put forward is human effort, whether mental or physical.⁸ Human effort is the phase of energy which lies at the core of our whole economic problem. It is what we want to measure and utilize, exactly as the problem of the scientist is the measurement and utilization of electricity or radio-activity.

Extra-effort, beyond that required for the immediate sustenance of the individual, goes into an intermediate reservoir and becomes capital, an advantageous product; and this is a very important consequence of effort, since much of the remainder, being expended to satisfy immediate need, is similar to that physical energy known to the engineer as "lost work," which, while vital, is apparently consumed in overcoming resistance. The major problem in the art of good government is to have the surplus which is gained from individual extra-effort, and is deposited in the reserve fund of capital, justly measured and promptly handed to the individual upon demand—not, as in the old fairy tales, left sticking to the measure, or diluted, as it is today, by the issue of countless additional tokens of value, with nothing behind them except political optimism and a system of taxation that was devised long before economic justice was dreamed of.

Labor, or human effort, is clearly limited by population. If there is no population there is no effort, so that the zero-point of effort and population is common to each; and, but for our errors in economic adjustment and our attempts to rectify these politically, it is safe to say that human effort is

* Jevons states as follows: "Practically man does nothing but pull, push, lift, press, carry or otherwise mechanically force things into new forms or new places." He appears here to lay insufficient stress upon a still more vital contribution to value. Man also thinks, and thus avoids much pulling, pushing, lifting and carrying. However, in summing up, he recognizes this and states: "Science makes muscular energy the key to our vast stores of material energy."—"The Principles of Economics," pages 69 and 70. Macmillan and Co., London, 1905.

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in direct proportion to population, exactly as an engineer will state that his potential hydraulic value, later to be converted into "work," is in direct proportion to the available height of water within a given area, no matter how this water may have meandered ornamentally or uselessly in marshy meadows before it was confined; but while potential human effort is proportional to population, its full *physical* effectiveness cannot be developed except by the autocratic state. This is the fact that lies behind the primitive worship of "efficiency." It was such so-called "efficient" utilization of human effort that built the costly Pyramids. An operation of this nature is paralleled in applied physics by the placer-miner's use of hydraulic energy. He confines a river in a limited area and leads it, as though in chains, for great distances, so that when liberated under control it does the work of a giant. Obviously, all that is gained at the culmination of this operation is lost to the intermediate spaces. The development of available human effort dreamed of by democracy is much more nearly parallel to the conversion of potential hydraulic value into electric-power, to be sent back for equitable advantageous use on all the intervening terraces.

Labor, or human effort, under what we call democracy, can only be compelled through need or induced by reward.

Need and reward,⁹ or necessity and inducement—these, then, are the two poles of human effort, respectively negative and positive; and as far as calculation is concerned, have the gratifying effect of polarity, swinging adverse inclinations into uniformity so that they may be measured. This determination of direction gives rise to what the engineer calls the "sense" of a force.

Any socialistic attempt to destroy these poles—to remove necessity, impair reward and quite literally ignore sense—promises speedy confusion; and our present efforts at political adjustment are so nearly socialistic that the consequences are very costly. Owing to our misconception as to the nature of value, we thwart it at the outset and then try to offset this by various devices which only result in further friction. As

⁹ See page 64.

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Gide puts it, "consequently every system which will tend to reduce individual energy will not stand a great chance of gaining anything especially advantageous from collective enterprises, however ingeniously they may be organized."¹⁰

Only with the two poles of necessity and inducement left unimpaired can labor or human effort be depended upon, and subsequently measured as a whole, in terms of population.

The contention that population is one of the prime factors of economic value may appear to be heresy for it disregards Malthus¹¹ who with a bland assertion that increase in sustenance tends to be arithmetical as compared with a geometrical increase in population, laid down a so-called "law" which has acted as a red flag long after the supposed danger has been proved to be imaginary. This red flag still flies, but it is getting bleached and frayed. Malthus knew little about the enduring mental labor of the scientist who, while he does not create, is able through accurate measurement to eliminate friction. Invention was in its infancy; and Malthus never dreamed of such a thing as the fixation of nitrogen, which is an effective step toward the synthesis of food. The carbon, phosphorus and potash in the grain of wheat have always returned quickly to the earth from which they came, but nitrogen, that outlaw element, was still playing truant in the days of Malthus. Since then we have learned that with the directing intellectual labor of a few men, all we require to resocialize nitrogen is the skilled utilization of Time—six months' evaporation of sea-water and six months' precipitation of snow upon the mountains. By this use of natural tides we can come near doubling the yield of an acre planted to wheat, and bring into bearing many millions of acres which have never grown wheat. Such contributions as these are not merely limited and immediate gifts: they are steps in our physical and intellectual emancipation, with consequences which multiply even faster than population.¹²

¹⁰ "Political Economy," Charles Gide, 3rd edition, 1913, page 24. Translation by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

¹¹ "Essay on Population," Rev. T. R. Malthus. 1826. Book I, Chap. 1. John Murray, London.

¹² See pages 128, 322, 324-6.

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Seligman, supported by an army of carefully marshalled facts, brushes past this danger-sign set out by Malthus, stating calmly, "The doctrine of over-population has therefore lost its terrors for modern society."¹³

China and India are cited often as proofs of the Malthusian Law: overcrowding is assumed and other factors,—such as the lack of order and foresight,—are ignored. Are these countries really overcrowded or ill-organised? What are the two most densely crowded countries in the world? Not China and India, as the sentimental would state off-hand, but Belgium and England. Seligman gives the figures per square mile for 1901 as follows:

Belgium	589
England	437

Compare these with China and India, which come 8th and 12th respectively on the list:

China	266
India	167 ¹⁴

As average individual intelligence climbs slowly above the zero-mark, and there is sufficient love of order and fair-play to allow need and inducement to exercise their full beneficent functions, then population—or potential effort—becomes an asset and not a liability, provided always there is no unnecessary friction induced by the embryo intelligence of the individual citizen, or imposed from above, which, after all, is the same thing historically.

Population, by itself, is not value; but it is a further measurable dimension of value.

Time. This is clearly one of the essential limits of human effort, just as it is one of the determining limits of any other phase of energy. It measures duration by seconds,

¹³ "Principles of Economics," E. R. A. Seligman. 4th edition, 1910, page 65. Longmans, New York.

¹⁴ *Idem*, page 50.

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exactly as weight is measured by pounds, or area by inches. If we are to do any sound economic measuring whatever, we must take cognisance of time, otherwise our so-called economics will continue to be a pathetic mixture of complacency, protest and dreams—a medley of as imaginative factors as ever the alchemists used when fire and life were regarded as chemical elements. Our present so-called “basic” element of capital is just as unscientific, and the factors called “Nature,” “natural-bounty” or “social-product” just as mystic; and it is no wonder that our equations do not balance.

To introduce into the elementary economic problem of measuring the value of effort in a region of order, unmeasurable factors of past time and dead labor, and to depend for effective flow upon the wing-dams of social and legislative debris, is almost beyond characterization. Our present textbook factors are a charge for *land-area*, enriched by the fruits of past labor, which we call rent; a charge for *labor*, which we call wages; and a charge for the *product* of land, past time and past labor, which we call interest—all expressed in terms of a vague fluctuating unit—and with these we have a liberal sprinkling of herbs and simples. The political-economists, the moralists and the politicians, between them, have arrived at formulæ in which the flavors of cupidity, resignation, perplexity, luck and legerdemain are so mixed that the engineer is fully justified in adding them to his museum where aquavitæ, the philosophers' stone and the other objects of the black arts lie covered with dust.

And yet *time*, of all our factors, seems to have so much of the quality of magic that it is no wonder the economists were inclined to regard it with suspicion. The moralists looked on it as a gift of God which it would be impious to examine; the emancipated materialists could not see either the beginning or the end of it, and were not going to be diverted by anything so intangible. Even now it seems to be the only gift left out of all we hoped for from the fairies; and yet, for each individual unit of the human race it is not so intangible a factor after all; we walk across our allotted span and come to the far edge as we might traverse an estate—the exact period of time

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is recorded on our tombstones, and there is no guesswork about that.

The so-called "increment" of time is constant, and in an ideal community, where equities are observed, should measure a general dividend available in proportion to our capacity to co-ordinate ourselves, though it is obvious that we grant this dividend at present as a kind of riparian right to the holders of thickly-populated land-area, without assessing pro rata responsibility. These beneficiaries in turn are raided at intervals by the international owners of massed gold—our disastrous fetish.

It has not been customary to regard time as an essential factor by which to measure economic value, and yet it is so clearly a definite limit that it seems almost foolish to set seriously about establishing the validity of its mathematical claim. If any basic calculations are to be attempted, it is fatuous to ignore it: neither resistance, duration of effort, nor interest, which expresses effective current value, can be determined except by employing the factor of time. Just as effective heat, electricity and weight in motion are measured respectively in calories per hour, kilowatt-hour or foot-pound-seconds, so interest, the current value of freedom, can only be measured in population-area-hours. It is worthy of note that as engineers make their tentative contributions to economics, they cannot speak of effort apart from time as a basic factor of value.¹⁵ They, at any rate, trained to reason quantitatively, cannot think of labor, or human effort, in any terms whatever without introducing the factor of time. They seem, however, to miss an equally important point by failing to realize that the area in which effort is exerted is just as necessary a factor of measurement as the time in which it is exerted.

The basic character of time as a factor of value is one of the elementary economic truths which has been approached so closely by economists from different starting points that the marvel is they never seized and harnessed it.

Henry George, in apologetically justifying interest to his

¹⁵ "Economic Democracy," C. H. Douglas. 1920. Page 93. Harcourt, Brace & Howe, New York.

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predatory and sentimental followers, states that time is an *element of production*,¹⁸ but he goes on to contend that what is really involved are the "reproductive forces of nature." These reproductive forces of nature, with Ricardo and others, he finally assigns to land, so that the logical effect of his argument is to make the interest paid for certain forms of capital a kind of super-rent for the land upon which effort was originally exerted. Like other high-minded but impatient crusaders, he invites a dubious following by the inducement of loot.

Charles Gide, also, acknowledged the factor of time and came almost in sight of Henry George as he was backing away. He states, "Time . . . is one of the essential conditions of all production" and "man's activity is limited by time as much as by space (*sic*). No act of production can be instantaneous. We shall see that this condition . . . far from being purely metaphysical has consequences which are of serious economic importance and of great practical interest."¹⁷ This is very adequate support, but it is necessary to point out that where the word space is used as a limit of activity, what must be meant is measurable *area*: space limits nothing.

Apart from the discussion of the importance of time as a justification for interest, Gide discusses it earlier in a more abstract way. He acknowledges the factor in a couple of lines, saying, "We might also add ("that nature must furnish man") with time, since time, as well as space, is a condition of our existence."¹⁸

He might have seized the elusive factor then, if he had not confused himself with a seeming parallel between space and time.¹⁹ Space parallels eternity, since space and eternity are the boundless theater of all our culture; but the two calculable

¹⁸ "Progress & Poverty," Henry George. Pages 184-185. Doubleday Page & Co., 1916.

¹⁷ "Principles of Political Economy," Charles Gide. 1st edition, 1891, pages 110 and 94. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

¹⁹ "Political Economy," Charles Gide. 3rd edition, 1913, page 66. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

²⁰ This may well be a misconception on the part of the translator, since area and space are often employed as interchangeable terms.

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factors of land-area in space, and time in eternity, are very important life-belts in infinity for the economist.

Professor Irving Fisher constantly employs the factor of *time*, as, for example, when he speaks of interest "being the link which binds man to the future." What other link is there between the present and future but time itself, and what can interest be but a measure of the importance of the interval in hours? Again, "Time . . . is required. Nature is slow in yielding up her treasures. This *slowness* of nature, in view of man's impatience to exploit her, will give rise to a rate of interest." And finally, "In fact, if we were asked to state in a word why there is interest, we should reply, because nature is slow and keeps men waiting."²⁰

Böhm-Bawerk actually got time into his laboratory, but he appears to use it chiefly as a factor to measure short and long cycles of production. His statements that there is a loss of time involved in the employment of capital are repeated and specific, such as, "the disadvantage connected with the capitalist method of production is its sacrifice of time" and ". . . the loss of time which is bound up with the capitalist process . . ." ²¹

Since he also emphasizes immediately the accelerated production which results from the employment of capital, the words "loss" and "sacrifice" are altogether too weighted with prejudice. If he had said that the greater cycles involved in capitalist production called for the aid of extra-effort, or extra-effort stored for use, which is capital, he would have escaped the appearance of claiming sympathy for capital, which needs

²⁰ "The Rate of Interest," Irving Fisher. Pages 336, 185, 186. Macmillan, New York.

This touch of anthropomorphism, in as modern and sophisticated an economist as Fisher, is quite delightful. We have, in economics, been so long fed on mysticism that we still cling to our dwindling deities, no matter how slow. It is really unfair to blame poor Nature for a high rate of interest. Fisher repeats a cry that has echoed down the ages since Eve looked after Cain and Abel and Adam: "*Do hurry, Mother!*" Scientifically, we have a rate of interest for the same reason that we have continuous electric lights, because freedom, in a region of order, has a current value; not because Mother Nature is slow and has to be bribed with pin money.

²¹ "Positive Theory of Capital," Böhm-Bawerk. 1891, pages 83-84. Translated by Wm. Smart. Macmillan, London and New York.

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neither sympathy nor apology. He is not referring to the lapse of time as a factor, but as an outrage to capital which can only be wiped out by the indemnity of interest.

His example of the sewing machine shows that with the aid of this implement the tailor can make one coat in one day, but without it he can only make one coat in three days. The "loss" of time in this example is based on the fact that it took "considerably longer than three days" to make the sewing machine!

If time has any virtue as a mathematical factor in this example, it is obvious that when the machine has made 1000 coats there is a *saving* of two days per coat, or nearly six years. Böhm-Bawerk anticipated such an objection by saying it would not be relevant in resisting his claim that there is any "sacrifice" of time involved. It may not be respectful, but it is relevant. What the engineer sees clearly is that there is made possible a most profitable facilitation of effort, and interest, therefore, is quite naturally offered for these facilities by competitive bidders who wish to seize such an opportunity.

Jevons also sees the significance of time, and states, "I would say then, in the most general manner, that whatsoever improvements in the supply of commodities lengthen the average interval between the moment when labor is exerted and its ultimate result or purpose accomplished, such improvements depend upon the use of capital."²²

As with Böhm-Bawerk, he sees the significance of time, but also unfortunately expresses it as though there were greater expenditure of time than gain. *It may be regarded as a greater expenditure of time per cycle of operation; but it is so clearly a less expenditure per unit produced that to speak of lengthening instead of shortening is quite misleading.* A simpler statement of the same thing would give a much greater significance to the importance of time as a factor, namely, any extended cycle of operation designed to utilize current effort to the full requires capital; in short, that to make current value per hour most effective we must employ every facility.

Jevons, however, without question, has cleared the path for

²² "Theory of Political Economy," W. S. Jevons. 4th edition, 1911, page 239. Macmillan, London.

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any subsequent investigator who claims that time is a vital factor, with his expressed suspicion that the dynamic interpretation of economics may be worth looking into; with his admitted long bewilderment, which he finally claims to have solved, that the factor of time is not involved in all his calculations; and with this sweeping statement, "Following out this course of thought we shall arrive at the conclusion that time enters into all economic questions. We live in time and think and act in time: we are in fact altogether the creatures of time"; but, with Gide, he grimly pulls down his hat over his eyes, at this conception of eternity without horizon, but much more impressed than Gide by his vision, goes on without pause to state soundly, "accordingly it is rate of supply, rate of production, rate of consumption per unit of time that we shall be really treating."²³

It is difficult to regard this in conjunction with his "elements"²⁴ after all his intimations and pain of labor, as anything but a still-born climax. As with a few other economists, his momentum fails just as it seemed about to sweep him into the clearing which Jevons himself, more perhaps than any of them, even Charles Gide, felt strongly lay close ahead. He is halted and held by the last interwoven brambles of the economic jungle, and in exhaustion goes wearily back to telling his beads—"Utility, Wealth, Value, Commodity, Labor, Land and Capital."

Time measures the duration of human effort, and while it seems also to measure contributions of lower forms of energy that require no remuneration—such as growth, carbonization, oxidation, aeration, erosion, the fixation of nitrogen, the induration and preservation of phosphates, the crystallization and storing of potash and the annual renewal of our mountain reservoirs—these, however, without human effort, are incapable of producing value for they can only be utilized by the expenditure of current effort, and, in the end, are better measured by the distribution of population than by time.

²³ "Theory of Political Economy," W. S. Jevons. 4th edition, 1911, pages vii, 65, 66, 67. Macmillan, London.

²⁴ See page 46.

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Both the so-called destructive and productive processes of nature are, under a larger view, no more than rearrangement: they are material modifications of our environment. The enrichments upon which we draw so lavishly are unmeasurable changes of environment; and their apparent depletion faces us more and more grimly as we exhaust our fisheries, our lumber, our oil, coal, nitrates, potash and phosphates, to say nothing of other groupings of elements to which we have grown used—and yet these very things, as consumed, have been the agents of our emancipation and their depletion seems likely to be the spur to greater emancipation. As certain commodities appear to approach exhaustion, just as free land was exhausted, or as capital has been momentarily exhausted in warring countries, we alter our plans. Destruction or reconstruction—both of these are plainly rearrangements of environment; but we are slowly being brought face to face with the fact that land-area, current population and current time are the only factors upon which we can depend for our basic calculations. Without knowing it, in our economic methods we are mentally living on our hump, like a camel, but it is not a basis for calculation that will carry us anywhere. If we employ such accumulations as factors with which to measure value, we are in the position of an engineer who arranges a hydro-electric plant on the basis of the water that can be drawn out of a mountain lake through a certain sized pipe in one year. What he actually does, instead, is to disregard the intermediate reservoir, knowing that it may be exhausted by a period of extra demand, and he estimates the amount of water flowing into that lake: he values it in terms of density, volume and velocity, and it is on these figures alone he bases the capacity of his power-plant and the scope of his distribution.

Time, then, is not a whimsical and intangible gift of the Creator's without shape or form; it is a rational means of measuring the duration of normal human effort—an available factor to be treated with mystic awe or disrespect individually, but which cannot be disregarded in any basic conception of value which recognizes effort, and deals mathematically with taxation, wages, rent, interest or delayed ex-

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change. If there is any economist still prepared to deny the function of time as a prime factor of value, it is because he continues to think of scientific economic value as something that will make a noise in a money-box.

Time, by itself, is not value; but, in combination with land-area and population, it constitutes the final measurable dimension of value.

Second. That under democracy human effort has been freed from arbitrary control.

To avoid discussion, the word democracy is used solely for the purpose of distinguishing our present system of government, in which order is self-imposed, from other systems, such as theocracy or autocracy, in which order is superimposed. The assertion that human effort has been freed for individual use is almost self-evident. The edicts of Turgot, the pronouncements of the French Revolution, the Declaration of Independence and the Proclamation of Emancipation were formal statements of this fact. We must not forget, however, that if land-area, population and time are basic factors, and we can shake off the dominating delusion that value may be measured by a commodity, the control of any one of these three basic factors means the effective control of the others. Nevertheless, since slavery was abolished, both convention and law permit the individual to do exactly as he pleases, within the limits of community safety, with his time and effort. The tramp or hobo may be a nuisance, but he is not a criminal under our code. The sentimental political (and politico-economic) reformers immediately counter that he is only free to 'do as he pleases within very narrow limits, and the land-owner holds him on a leash. If we are quite sure that it is really the land-owner who holds the end of the leash under our present system, we may admit this as a matter for careful attention without denying that we have deliberately utilized our political power to abolish slavery and thus free to each man the full value of his effort. If unfortunately we have left the individual hobbled through economic shortsightedness, inadvertance or sheer delusion, it does not make our political intention any less specific.

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In abolishing slavery, what we said in effect was that any individual might work as *long* and *hard* or as *short* and *lightly* as he pleased, as though a court-of-law were to grant to the owner of some mountain meadow full title to all the passing water he could use on his own land for all time.

Third. *That free human effort varies according to population.*

Under absolutely efficient autocratic control, physical labor would obviously vary directly in proportion to population; that is, a definite number of slaves driven with maximum efficiency would yield a definite amount of work in one year, which could be as cleanly calculated as the amount of work to be obtained from twenty mules, one capable driver and a long whip. Mental effort, however, under autocracy could not be so calculated on or coerced, and that was one of the wasteful leaks in the inadequate pressure pipe of the autocratic system.

Under popular government the ratio of effort to population should be more direct than under autocracy, provided foolish political provisions are not made to dull the goad of necessity or impair the integrity of inducement. The goad of necessity covers all current needs, and adequate inducement will provide that extra-effort on which the community depends for a reserve and a guaranty of continuity. It is no longer the crack of the whip upon which we must depend for the creation of reserves, nor the autocratically supported edicts of Joseph, but the inducement of adequate and unimpairable reward. If, however, through pernicious legislative enactments, we undertake to make the community responsible for the welfare of the idle individual, we have permitted a deplorable reduction in motive-force; and if we cut down reward, or make it spurious, we have added to our error at the other end of the flow, checking that spontaneous effort, whether physical or mental, upon which democracy must depend.

With necessity and inducement unimpaired, we can then count on a normal flow of effort directly proportional to population.

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Fourth. *That the factor of time does not vary.*

This needs no argument.

Fifth. *That within fixed political boundaries land-area does not vary.*

There is here a hopeful assumption that political limits are finally established under democracy. At any rate, for the sake of exactitude, fixed political boundaries are stipulated. The delay in recognizing land-area, as a final factor, was due to the possibility of additions by seizure and conquest.²⁵ The number of acres, however, does not vary within our present political boundaries, so that we have a fixed area within which our energy is confined. Time being constant, and movement unrestricted, the occupancy-value of land-area varies directly in proportion to the population.

Sixth. *That control of land-area, if permitted politically, is therefore basic economic power, giving control of effort per hour, and consequently of total value.*

Through unregulated control of land-area, toll can be taken of labor and tribute demanded of "slow time." Provided no arbitrary factor is permitted to intervene, land-area then becomes the basic factor of economic power, or control of value, most subject to individual domination and for this reason democracy should be keenly interested in its pro rata responsibility, since only by this precaution can each new generation be confirmed as heir of all the ages. It is one thing for the individual to squander his birthright. We fought for that privilege. It is quite another matter for society to negligently cut him off with thirty cents.

Detached human effort, under the impersonal sufferance of time, whether properly diligent, taking advantage of lawful occasions, or frankly predatory, must come to earth with its catch or, in the end, forego it. What the community is concerned with is area, which does not flow benignly like time or fluctuate like effort. It is the fixed and immutable base upon which all benefits fall.

²⁵ See page 42.

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Area is the only controllable factor of current value. Individual effort is not controllable, and while Time, if we invest it with personality, may appear subject to appeal, giving us an easy dollar for each dollar raised by effort (like some multi-millionaire philanthropist), in reality is an inexorable factor which, not only cannot be controlled, but which, if we personally ignore, starves, kills and decomposes us and makes to land another small contribution of carbon, phosphorus and nitrogen.

If we had the One-Big-Union of which organized labor dreams, the land-owner might be inclined to doubt his basic power, or if days could be rationed out like sugar, there might be some confusion as to the dependability of time; but time is fortunately out of our hands and labor cannot be primarily controlled by any individual without the creation of a new autocracy. The human animal has grown tired of Kings, of Captains of Industry and of so-called Labor-Leaders, in exact proportion to their domination. If this becomes effective we spew them out as obstacles; but as long as they merely represent a strong sentiment, we respect or endure them. From an intelligent reading of history we can see that the accomplishment of being spewed out with some dignity has come to be regarded as a "royal" attribute, whether exhibited by a Louis or a Napoleon. In the end all arbitrariness go; and our apparent respect for them, when we look back, has very much the appearance of fattening the victim for the inevitable sacrifice.

The ultimate human control of economic value, then, rests logically upon the control of land-area, and this for the vital reason that land is limited in quantity and, since acquisition by conquest became unfashionable under democracy, has not been subject to unexpected and distressing duplication. Labor, limited only by time, can redouble its effort, or for awhile it can go on strike and cease entirely. No individual, whether autocrat or demagogue, can halve or double the available area of land within fixed political boundaries.

The general importance of land as an economic factor is clearly demonstrated by experience and history, and so well supported by philosophers of the caliber of Herbert Spencer and John Stuart Mill that there should be little need to argue

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the point; but there is one misconception, which must be emphasized again—the more sentimental economists, while recognising that land is the confining area of human effort, insist also on adding persuasion to their logic. Oil, coal and metals, the rearrangements of matter; drainage, reclamation and fertilization, the contributions of past effort—these are added by some of them to the calculable factor of area, obviously enough, in a few cases, for the purpose of making immediate community control more tempting. It is very much as if an engineer were to try to tempt prospective investors in a power-project by stating that the waters flowing through his water-right were delicately flavored with sugar and lemon, that his water-pipe was painted red, or that he knew where he could tap a few fish-ponds, and for these reasons arguing that the horsepower developed would be vastly better worth control. He would get more credit as a promoter than as an engineer. In licking their chops over the good things in land, the sentimental economists are contributing nothing to a sound solution of our problem. Many of these values, whether they are called "site value," or "social-product," are already appraised by the flow of population: others are capital, and being capital are not only already owned, but are subject to unexpected duplication and inevitable depreciation. They cannot be regarded as fundamental economic factors, but, as put forward in this way, are simply the pseudo-reformer's vague inventory of possible loot. Scientifically they are not basic value, but rank with the conditions which help to localize value. The facility provided by a conductor of energy, such as low resistance, is not energy, but it does go toward ensuring a greater net realization of value, if the essentials of that value already exist.

From the standpoint of pure economics, the control of land-area is control of the basic factor of national value. Population is not controllable except under autocracy, or under such bureaucracy as the modern reformer vainly dreams of. For this reason, since we are now interesting ourselves in the values arising from political freedom, we are compelled to take cognisance of land-area which defines one of the impersonal limits of this freedom. From a scientific standpoint, it is more than

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illogical to link the value arising from free individual effort either wholly or fractionally, to gold, any portion of which is held on deposit in this country by an irresponsible and alien government or its semi-official agents.

The area of land is vital because it cannot be suddenly duplicated or withdrawn. All other so-called "land-values" may be substituted for, duplicated or exhausted, and represent the humus of dead years. Because of the finality of the land-area factor within the boundaries of democracy, it is capable of dominating effort and its control today would be actual sovereignty if it were not for our erratic taxation and the unscientific gold-standard tradition. Individual sovereignty, however, it must not be forgotten, is what each of us wants for himself. It is what we have been calling freedom.

Seventh. That power and responsibility are complementary.

Here we depart apparently from physical parallels for a moment because we are dealing with a phase of energy lacking conventional phraseology, but in physics a force *does* make the effort of which it is capable: ethics, if the effort is beneficent, says that it *should*: and law, when it finally speaks, says that it *must*. Only with power and responsibility definitely coupled, is there any assurance of value or freedom.

Ethics (which is the anti-friction compound of the human power-plant), gives us the law that power and responsibility are complementary, and from ethics it should be a very short step into law and politics; but while the approach to law can be made easily, we find often that we have to walk a great way back along a regrettable crevasse to reach political territory.

In law it is covered by many enactments, the laws of trusteeship and guardianship being the most simple. We can step across the crevasse between ethics and politics on the meeting ground of employers'-liability, however inequitably drafted that law has been in various places. In practical politics we have to go far further back than democracy itself for a clear sight of it; but if we stop a moment to consider, we find the natural law automatically operative in that we suffer the con-

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sequences of an unintelligent exercise of our voting power, and for this reason we hold on grimly to the right of impeachment if our delegated power is abused.

In patriarchal days, responsibility, and the necessary power to support it, were willingly conceded to one political leader: in the days of autocracy these complementary honors were joined in the person of the king; and if they were not wisely balanced the king lost his head. He admittedly had the power and he had no parliament to which to pass the blame, though he often made a protesting minister his scapegoat. Our predecessors, who lived under this rudimentary form of government, may not have had the fertile mind of the modern reformer, but they recognized more clearly than we, when things went badly, that since all power was vested in one head, then all responsibility was vested in the same head. They proved it neatly more than once by terminating power and responsibility with one stroke of the axe—a very simple demonstration of the truth that power and responsibility are complementary.²⁶

Eighth. That the economic responsibility of economic power (or control of value) is taxation.

This may be briefly expanded for the sake of elucidation by saying that the integrity of the control of economic value is protected by order; that value is made more effective by the creation of common facilities; that the preservation of community order and the creation of community facilities are the only proper offices of government; and that the cost of government is met by taxation.

This assertion, however, may be a little hard to prove to those worthy holders of economic power who are fully conscious of their responsibility in moral terms and who, through fair dealing, just wages and generous benefactions, try to discharge their social obligations. Some of them acquit themselves nobly, doing more than their just proportion, and have created a tradition of aristocracy which has still a pleasant flavor; but it is not with these that society has to deal. There are many others who labor under a delusion that they do their

²⁶ See also Order, page 135 *et seq.*

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full share, and a still larger number within the boundaries of democracy whose hand is against every man's. With the moral responsibility of these it is best to let their own consciences deal, as it is far too complex a problem for the economist : their political punishment we can leave to the consequences of their political neglect, which is followed by curtailment of personal liberty ; but their economic responsibility must be scientifically measured as some definite pro rata of a calculable whole if we are to avoid costly friction and if we are interested in the rational measurement of value.

Ninth. *That just taxation must therefore rest upon the same basis as the control of value, namely, land-area, population and time.*

As an exercise in equity or proportion Euclid would have demonstrated this by showing that things which are proportional to the same thing are proportional to one another ; but he has now had the advantage of being backed up by several generations of hard-bitten dominies, who have driven this truth into the young mind before it became conscious of vested interests and the cost of adjustment.

It appears to be inescapable ; but in case the objectionable conclusion should lead us to reject our premises : that basic economic value can only be measured by the factors of land-area, population and time ; that economic responsibility is proportional to the control of value ; and that taxation is economic responsibility—let us look at it from the standpoint of utility. We have potential effort confined within definite limits, and this may be measured, as a whole, in terms of population, time and area. Population increases with facilities and order, as democracy may some day prove in spite of the advocates of limited immigration and birth-control : time flows on regardless of tax experts ; only land-area is subject to control. Surely, to tax the individual, either on the basis of activity or need, is to impair effort ; so that the only rational thing to do is to assess responsibility in proportion to domination. Population is potential effort, and the control of land-area is domination. If, therefore, the value of domination varies with population and

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time, there can be very little question that the responsibility of this domination, or taxation, should also vary with land-area, as modified by population and time.

Getting down again to engineering terms, if we saw fit to allow, for purposes of utilization, control of varying proportions of energy, how should we measure it and how should we assess the charge? Not by the use to which a man put it, but by the density (population), the flow per second (time), through a given cross-section (land-area). In a co-operative undertaking such as democracy, the proceeds of this charge should be used for patrolling our ditches (order) and widening, deepening and extending them (facilities). This charge would be the scientific equivalent of just taxation, and is obviously an essential condition of effective value, since it is the basic cost of reducing resistance.

Instead of realizing that having ascertained the time by a clock and the population by a census, all that remains for purposes of equity and economy is to measure the superficial area under individual control, we tax improvements and personal property, thus impairing inducement and losing effective pressure; we tax need through consumption and corporation taxes; we tax activity through licenses; and we tax facilities and equipment through property taxes. At every point we introduce costly friction and then spend public funds in ill-considered relief. As a last inane pleasantry, we stop the flow every year between the first of January and the fifteenth of March. The government says "old family coach," and we all get up, turn around once, and sit down again. This whole business may be scientific inquisition, but it is as though a hydraulic engineer were to draw out the water ahead of his sluice-gates and hold up the vital flow, while this water was examined bacteriologically and a large amount thrown away. As economic engineers we have no reason to be very proud of our so-called system of measuring pro rata responsibility.

We have looked at this matter from the standpoint of equity or proportion: we have discussed it from the standpoint of practicability, as it would be dealt with by the engineer. Now let us take it into the realms of pure economic science which, as

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the economists assert, is fundamentally a study of the measurement of value.

Value is directly proportionate to effort and inversely proportionate to resistance. It should be obvious, therefore, that unless effort and the equilibrium which must be overcome can be definitely *pre-stated* in common terms there is no calculable value for the economist to deal with. A unit of economic value subject to retroactive depreciation by a tax on ice cream cones and women's hats makes calculations very complicated.

Tenth. *That under democracy effective effort is directly proportional to inducement.*

This anywhere but in the economic field would be a platitude; but in the mechanics of democracy it should take the same rank as one of the elementary rules of engineering: that if you diminish flow or introduce friction, you proportionately reduce effective energy. Unimpairable remuneration, the guaranty of freedom, is inducement: inducement governs effective effort; and the maximum expression of individual human effort is our economic goal.

Now if inducement is impaired, and if rewards are allotted to idleness, it is obvious that friction has been introduced, and value diminished.

The whole question of inducement is vital to democracy, for having freed individual effort, and having done away with autocratic control, we must leave the pressure of necessity to attend to reluctant effort and employ the inducement of adequate reward to encourage willing effort. The pressure of necessity—the drive of circumstance—ceases to function as soon as the immediate menace to physical freedom is over—effort and resistance balance, and there is no effective surplus. The inducement of reward—the lure of circumstance—is all that the community can depend upon for its reserves. It is not then merely a moral duty to see that remuneration maintains its relative integrity: it is vital to the existence of the community. If there are any citizens willing to create a surplus, they must be encouraged and protected; and if at the period of their extra-effort they do not require either goods or services, we

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must ask ourselves searchingly what we can offer. What they desire is *freedom to move* protected by some definite pledge which will maintain its relative integrity and be immediately honored in time of need. They ask for a pledge of value and we give them a very vague assurance of political discretion subject to impairment by taxation. They have, for a definite time, put forth extra-effort, thus enriching the fixed area of land. To guarantee a just return for this extra-effort, we must take the basic unimpairable factors of potential value into our reckoning, together with the basic cost of making this potential value effective, which we call taxation.

Eleventh. That the tokens of value put forward as inducement should then be incapable of partial repudiation, or debasement.

This is a direct corollary of the previous argument, since nothing that is subject to impairment is adequate inducement for that effort upon which democracy depends. We have very recently learned that our present tokens of value are capable of partial repudiation; that the year's surplus effort, which went into the purchase of a solemn community obligation, such as a Liberty bond, will only purchase six months' similar effort,²⁷ and that even though this obligation will ultimately be redeemed at its "face value," the same number of dollars returned may well be worth much less than they were to the lender originally. The vital significance of this debasement is that our so-called tokens of value are not tokens of value at all, since they are not based upon ultimate measurable factors. We have abandoned the support of autocratic power and failed to enlist the support of democratic order.

The Hindu and the Chinaman have learned that the effective value of an ounce of silver or gold in terms of goods or services may go up and down like a sky-rocket; and the gold-miner, who was regarded as having his feet squarely set on economic bedrock, has found that his ounce of gold, which he "blocked out" at the cost of fifteen dollars' worth of labor, land and time, will only yield him twelve dollars measured by

* See footnote, page 228.

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the same basic factors. The impairment of our token of value during war was roughly balanced by the fact that some of those who controlled land-area in the presence of population could temporarily obtain, through increased rents, more effort than they expended for their land, so that part of the community apparently gained what another part lost, if we disregard the shock to general confidence. There is, however, a third interest still to be heard from which has always bided its time—that is the holders of massed gold, our imperial “basis of value,” who cannot only terrify holders of currency and those involved in extended credit, but can, through the strength of our delusions, in times of so-called depression, drive even the owner off his land.

The whole economic structure has been shaken and shifted, in the same manner but to a greater degree than formerly, with the result that many are financially bruised and ill-tempered; and there has been a deplorable tendency to impeach democracy as an institution, or to modify it in exceedingly dangerous ways.

The social organization, at the moment, is like a heavy-duty engine which has leaned far over on its rotting economic foundation sills. Instead of getting the foundations down to bed-rock, we are shoring them up with a number of legislative timbers very subject to decay, foolishly satisfied for the moment, if we can only steady it, to accept the dangerous lack of level, the enormous friction developed by new factors of thrust and pressure and the appalling wastage of available effort.

It is easy to imagine some critic saying that guaranties against debasement are not possible to make; but it is very difficult to imagine such a critic contesting the desirability of them. Now it may not be a simple matter to comprehend that, since the advent of democracy, there are unimpairable national economic factors; but that is no reason for ignoring the thing as we do. It is not viciousness, though it has many of the aspects of viciousness. It arises because of our whole hazy notion in regard to the relation of effort to remuneration, of remuneration to money, of money to value, of value to freedom, and of freedom to order. Our formula for currency is a

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worthless and primitive simple which should have gone down the well when the first spring water of democracy was piped into the house. To the engineer our dollar has about the same scientific sanction as the kilowatt-hour would have, if, after an exact measurement of volts and ohms and the resulting amperes, effective value per hour could be complacently altered by a transatlantic cable message between the semi-official agents of gold-standard principalities—and then frantically adjusted during a special session of Congress.

The problem of adequate remuneration involves chiefly the question of deferred payment—the settling of balances after an unequal exchange of effort—and the future recompense of that extra-effort which is vital to the community. The means of accomplishing these equities have grown immensely involved since they were deliberately set in reverse by autocracy, gathered up from the wreckage, still running, and utilized by democracy without suspicion.

To reconstruct the essential relationship between value, or orderly freedom, and valid currency, let us go back to simpler times.

Before there were any conventional tokens of value to assist exchange, such as currency—that is, before there was any well-disciplined trust in princes, or any organized community good-faith—there was still in process, exactly as there is now, a constant exchange of current labor and goods. At that stage of economic development—the stage of trade, or barter—it is easy to realize that the total sum of skins, flints and forest produce made up the total sum of materialized effort—or wealth—and this total was itself their cumbersome currency. The power of demand was the total sum of goods not required for immediate consumption—provided always that someone else desired them. This total, as today, was a product of effort, in the medium of matter—less the incalculable demands of the tax-collector—a partial product, not a factor. But the economists of those days had more excuse for loose thinking than we, for they had no conception that the cost of order is a factor of value; they had not thought about *time*; they had some reprehensible habits in regard to human effort—taking a slave when

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they could get one—and they had no fixed *area* factor, the amount of available land being more than they could use. Being conscious of no such thing as economic order, they naturally turned their minds to alchemy and astrology. A few of them went in for discreet schism to keep occupied. These founders of the Pessimist School of Economy had dark suspicions that the Magic-man's formal factors of economic value—Labor and Luck—were prejudiced by the gratifying offerings at the altar. Nevertheless, it is obvious that one law of economics, of which we are apt to lose sight, was fully appreciated by our predecessors, namely, that the sum of total available negotiable goods is a perfectly satisfactory medium of exchange and measure of comparative value as long as time is ignored as an economic factor and there is no question of deferred payment. They all disregarded the factor of *land* in exactly the same way that we now disregard the factor of *time*.

As political boundaries were extended till they met and stood rigid, men became more and more conscious of land—over-conscious of its fluctuating “value” and not sufficiently conscious of its unimpairable area; and it was only as these competing political boundaries drew breast to breast that this basic factor of area became available to the economist. At this point, extra-effort, being within fixed limits, could be measured and stored for future use, and the economic inducement to exercise foresight came cleanly into play, thus creating the necessity of a just basis for deferred payment, or, in other words, creating the necessity of devising a pledge of value which would be valid in *time* as well as *area*. But at this stage, when the factor of land-area might have been utilized, *orderly* freedom had not been dreamed of; and they were still hampered by the Magic-man's pretended control of luck. During the confusion, the position of patriarch crystallized quietly into that of monarch, as the advantages of the control of this new and definite factor became very attractive both to the king and his family.

*“The king was in the counting house,
Counting out his money,*

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*The queen was in the parlor
Eating bread and honey."*

With the royal domination of land-area there came also an added opportunity to dominate labor by serfdom, and to appropriate all surplus effort.

*"The maid was in the garden
Hanging out the clothes,
When up came a blackbird
And pecked off her nose."*

The commencement of the gulf between the controller of land-area and the individual exerter of effort could not be more simply illustrated, nor could the modern tax-collector (who makes his demand on visible need and activity) be better pictured than by the blackbird in his vicious assault on labor.

What had happened was that the national economic system was at last politically enclosed, and the living force to be measured and utilized—human effort—was capable of being read by a gauge. It was no longer necessary to estimate it by the length of the driver's whip: it was no longer necessary to do as we do today—harass and discourage it at every point and measure it by the intensity of its protest; and it was certainly no longer necessary to measure it by little pieces of gold which we have to borrow at times on ruinous terms from private or alien owners.²⁸ From that time on, the pressure of population upon land-area in a given time was capable of scientifically measuring value, whether present or future. Extra effort could be exerted and stored up, and its value accurately measured in the gauge of census-area-hours. There should be no further need to guess at its value, as we do today, and subsequently suffer at frequent intervals from our over-estimates or our under-estimates. Mentally, in our economic methods, we wander aimlessly back to the meandering and unconfined headwaters of human energy and guess what the value amounts to in terms of gold, ignoring the simple scientific factors of value.

²⁸ During periods of panic interest rates on call money have gone as high as 125% per annum.

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Because volume, density and time are our only *measurable* factors they are just as vital to the economist as they are to the engineer, as far as value is concerned; but we have been thrown off the track since the time of communal government when land was free and there was no effective confined pressure, and hence no means of measuring it, and, later, by the self-interest of the autocrat as he realized his dominance of effort through the control of area. So nearly omnipotent was this dominance that it was crystallized into divine-right and this was zealously taught to be a sacred institution. The means of measuring economic value were, at that stage, carefully kept out of our control and we were not invited by the king to help him in his empirical methods. Secure in his carefully fabricated divine-right and knowing nothing about engineering, he tapped the economic pressure system with the aid of the royal dentist and the nearest Hebrew. When toothless Hebrews went into temporary retirement he issued alloyed tokens of royal demand—crowns, sovereigns, etc., which we call money—and in this way extracted more painlessly the surplus supply created by extra-effort. This was also crystallized into divine-right, as Del Mar points out when he emphasizes the significance upon coins of the phrase "Dei gratia"—by the grace of God.²⁹ Del Mar further quotes Hallam as stating "The right of debasing the coin was also claimed by this prince (Philip the Fair) as a choice flower of the crown." Finding this method reasonably successful, the king might have exercised it in moderation for a long time, but owing to the queen's insatiable appetite for bread and honey, he tried it too often and the royal tokens were notoriously debased. At this the king became confused and irritable, realizing that he had some responsibility as well as power. He disposed peevishly, for a consideration, of the privilege of coining arbitrary tokens of demand with which to absorb surplus effort; and, little as we may realize it, that privilege is today almost as childishly and unintelligently exercised as it was then. Owing to our neglect of land-area, population and time as factors capable of measuring the cost of

²⁹ "History of Monetary Systems," Alexander Del Mar, M.E. Page 241. E. Wilson, London, 1895.

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order and the resulting value, the increasing mortgage-value of urban land is one practical example of private absorption of surplus effort, and as it expresses itself indirectly in bank assets and credit, has the same effect as private coinage. At the same time, in spite of our generous validation of credit in terms of nonexistent gold, our estimate of total value, even when expressed as flamboyant "gold" bonds or as more discreet "gold" currency, falls far short, *under orderly government*, of being a sufficient expression of our basic assets.⁸⁰ It is not because we over-estimate these assets that we suffer from inflation: it is because we so under-estimate them that issue after issue of certificates of value, expressed in terms of gold, is feasible, with spasmodic interruptions, when the international holders of the world's meager gold supply bring us sharply to heel. The result is that a few grow a great deal richer and the rest of us, if not actually a little poorer, at any rate unnecessarily insecure, and indecently grateful for the few crumbs that fall from the table. And the mischief wrought is not vicious. It is aimless. Total effort is checked; and the pitiful margin of value is badly divided.

Just as in the days of the most simple community, when goods and services were exchangeable for goods and services, so today bills-of-lading and warehouse receipts are valid tokens of exchangeable wealth, and if we ceased all effort, would go on being so till everything was consumed. But lacking autocratic compulsion, the vital need of democracy is extra-effort. How can we encourage this except by providing that our inducement shall be guaranteed by some token that is a negotiable subdivision of total national basic value—not a mathematically unenforceable title to a share in a stock of gold which we do not own, or a deferred title to magnificent sums of gold, which do not exist, based on the optimism of some amateur Secretary of the Treasury, or the dubious credit, expressed in gold, of some pyramiding captain of finance, endorsed first by his own bank, next by a friendly subsidiary, and later quite innocently by the Federal Reserve Bank which, as the representative of the victims themselves, is wrestling in good faith,

⁸⁰ Compare "Volume of Currency," page 304 *et seq.*

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as best it may, with the hopeless problem of validating select portions of our interwoven credit in terms of a disintegrating unit of value based on imaginary ounces of gold.

Whatever certified value should be to set in motion advantageous effort these, at any rate, are things that it should not be.

The exertion of a useful effort in excess of present need is the first half of a transaction which can only be justly met by the return of an equally valuable service at some future time. Such a transaction should involve the transfer of a pledge of unimpairable economic value, otherwise it may well purchase much less under altered conditions, due to some sudden shift in the incidence of taxation, or to an incalculable increase in the number of tokens. Money should therefore be a pledge of effective measurable value, which is the full flow of effort, modified by the cost of order, and its redemption in value should not only be mathematically possible, but it should be unavoidable. This can only be provided for by basing it upon measurable factors which are fully comprehensive. The community has no control over gold, which we shamelessly boast is free, and no control of time and labor, which we also boast are free, nor of goods which ought to be free. It has proper political control of only one thing—land-area—which, *because it is limited*, can be rationally employed as the base of an unimpairable measure. Nothing but a lien on this, as modified by population and validated by the prepayment of taxes, is a scientific guaranty of deferred payment. It will be promptly recognized by the economic student that this most essential specification for the adequate remuneration of extra-effort brings us back to one of those delightful clearings in the economic jungle, where nearly all the economists have met and shaken hands in mutual congratulation. This is a specification of what money should be—a safe basis for deferred payment—but not, unfortunately, of what it is. What it is today nobody really knows. It appears to be an apologetic certification of a fraction of national value, governed positively by the amount of gold that international bullion-dealers find it convenient to leave within our boundaries, or advantageous to withdraw.³¹

³¹ Compare footnote, page 267.

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Both the institutions of irresponsible autocracy and embryonic democracy have tended to cover up the most essential function of money—its integrity as a fractional pledge of full value, so that it can be used as a safe basis for deferred payment—and it was necessary to clear away the overhanging branches of these phases of government to realize what money is in its simplest terms. That our short-cut lands us side by side with the more painstaking political-economists, is a matter for renewed congratulations, if they will permit.

Gide, characteristically, even while acquiescing in metallic currency, touches a significant flaw in our present unit, without realizing that the *discovery* of an obvious flaw in the logic of a science is quite as valuable a service as the discovery of a law. He is very clear-sighted when examining isolated phenomena, but appears to rest his case with a statement of contradictory evidence. He proceeds as follows: "However, it is right to recognize that though the precious metals are far better suited by their natural properties to serve as instruments of exchange than as a measure of values, yet they possess two special properties which enable them to fulfill this second function in a manner which if not perfect is at least superior to the use of any other imaginable measure of value. These two properties are firstly their very great *facility of transport*, secondly, their almost indefinite *durability*. Thanks to the first of these two properties, the value of the precious metals is, of all values, that which fluctuates least from place to place. Thanks to the second, that which fluctuates least from year to year. It is this double invariability (relatively speaking) in space and in time which is the essential condition of every common measure." He sees plainly, at this stage, what is required, but a little later lays his finger on what we suffer owing to the fact that even these inadequate qualifications are not met, when he goes on to say, "If, then, the value of the precious metals offers substantial enough guaranties of stability in time when short periods only are under consideration, it altogether fails in this respect when long periods of time are included, say twenty- or twenty-five years, not to speak of several centuries. In this regard, then, our proposed measure of

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value is extremely defective.”⁸² The amazing misconception here is the claim that *facility of transport* and *physical durability* have any relation to scientific value. One might as well contend that a column of gold is the best indicator for a thermometer owing to the ease with which it can be moved from the North Pole to the mouth of a volcano and to its “stability.” He is confusing physical characteristics with economic value, which is much like measuring a man’s virtue by the size of his diamond.

Since this was written by Gide we have learned by bitter experience that the “value” of the precious metals also fluctuates in short periods of time where the economic reactions are intensified, as by war.

Twelfth. *That the tokens of value, or currency, must therefore bear an integral relationship to total basic value, which can only be finally determined by the product of the same three factors—land-area, population and time—as modified by the cost of order.*

One of the earliest practical utilizations of the phenomena of arbitrary currency was made by Gresham; and his so-called “law,” as formulated by McLeod, is that in every country where two legal moneys are in circulation, the bad money drives out the good. This has attracted attention mainly because it is stated as a paradox. But if stated in other terms it has greater significance, even though it has less charm. If money is conceded to be the power to command effort, guaranteed by government, it is obvious that if there are two tokens with equal arbitrary power of demand but different commercial value, the one of less commercial value will be employed within its own domain to obtain services, and the one of greater commercial value will be employed outside the boundaries of that domain, where arbitrary domestic mandates are not honored. What Gresham actually laid down was an equally important law—namely that there can be no uniform measure of economic value under political conditions which are fundamentally dif-

⁸² “Political Economy,” Charles Gide, 3rd edition, 1913, pages 75, 76, 78. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

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ferent. *He was prophetically distinguishing between the science of economics and the black art of political-economy.*

Now let us brush away all political cobwebs for a moment and look at national currency from some point of view which is not that of so-called conventional political-economy, keeping in mind the qualifications upon which the thoughtful economists have happily agreed, namely, that a valid currency should have the immediate function of serving as a measure of value and a medium of exchange, and a continuing function of serving as a safe basis for delayed exchange, or deferred payment. This elaborate definition of a unit of value would be regarded as pathetic in any but an economic treatise. Our ritualists demand a scientific unit of value—and stipulate solemnly that it shall not only be a unit of value now : it shall also be a unit of value over-page ; and it shall remain a unit of value if they chance to take a nap. And having thus ponderously admonished their irresponsible unit and fallen asleep, we later observe them in frenzied pursuit of this unit like terriers on the trail of a departed rabbit which some hours previously had insouciantly selected a breakfast from Dr. Royal Meeker's ^{as} list of nourishing commodities. Up hill and down dale, they follow vainly ; and if we chart their zealous activities we get a typical Index-number "curve"—probably the most solemn farce ever perpetrated in the name of science in connection with a unit of value.

With fixed political boundaries defining the hourly effort of population within a region of self-imposed order, we are in a precise area of potential value, normally increasing because of our unquenchable desire for ampler freedom. To devise for use within this area a token of value, capable of maintaining its relative integrity at all times, and at all points, this token must necessarily be expressed in the same terms as the total basic value of the area in which it is to function, which is calculably modified from year to year, *not only by population-density but also by the cost of what, from year to year, we conceive to be order.*

^{as} "Wholesale Prices." U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C.

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Looking at the problem from a slightly different angle, let us imagine we are required to establish a measure capable, at all times and under all conditions, of maintaining its relative integrity within an orderly area of fixed dimensions and varying pressure. The statement of the problem defines the only possible solution; for since our measure has to express the *value* of pressure upon area, each of these components of value, *together with the cost of maintaining the integrity of this area*, must be represented in its composition. The effective value expressed by this "*measure of value*" can only be determined further in terms of units of time.

Taking a simple scientific parallel, if we desire to express the potential value of a confined force we do it often in terms of pounds pressure per square feet. If we further desire to express the effective value of this force in motion we employ the factor of time and state it as so many foot-pound-seconds, which is simply an expression of pressure per square foot, *less the cost of making this potential pressure effective*, measured in terms of the mass and rotation of the earth—our ultimate unimpairable dimensions. It would be useless to attempt to measure the value of this force by a definite weight of wheat, lard, cotton, corn, silver or gold, no matter how highly we held them in esteem.

Within an area such as the United States, if we care to be guided by scientific procedure, we must employ for the measurement of economic value, instead of ounces of gold, or very doubtful titles to ounces of gold, a definite unit based upon census-area. If, because of economic order and security, the reactions of effort are quickened, neither our unit nor accumulated capital will be adversely affected. The basic unit remains the same, but it measures a greater flow of effective effort; and should logically command at least the same quantity of goods and services of others, instead of less, as does our present unit. This symptom of a unit of value commanding less as activity increases should have absolutely established its scientific invalidity if most of us had not been too busy to think about the matter.

If we employed such a unit, we would, at any rate, rise or

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fall together nationally, instead of maintaining as we do now a continual fratricidal economic war within our boundaries.

The political-economists, wrestling with disconcerting political arbitrariness, saw money in its relation to a limited supply of gold which because of its original scarcity, acted as a check to irresponsible action, or they think of it in relation to goods, the wasting product of effort, or to manual labor, the least valuable form of effort. The curious aspect of their endeavors, from a scientific point of view, is that while they have struggled vainly to determine the total volume of national value in terms of an indeterminable unit of value, it apparently has not occurred to them that their unit might be determined by the total sum of national value.

As suggested vaguely by others, Professor Irving Fisher, with all the painstaking method of the scientist, proposes as a remedial adjustment to employ the fluctuating demand for commodities as a basis of value. Now if it were possible to hold taxation and rent under scrutiny, to gauge accurately the value of physical and mental labor, and to fully disclose the total available quantity of goods desired, then, with calculable taxation and with rents, wages and professional fees controlled by law, the *retail* price of finished commodities might be a fair index of the whole population's informed demand. Such intelligent demand would undoubtedly be a clew to *value*. His method assumes a vague relationship between uninformed demand and unknown supply; but since the demand may be thwarted and the supply suddenly contracted or expanded, the relationship he proposes to use is at the best a measure of material value, vitiated by several unknown factors. Only measurable supply adequately coupled with measurable demand (or measurable flow, which is the same thing) can be employed to determine economic value, and if we are to measure supply or demand, or the consequent flow, we must have something comprehensive to measure them with.

Fisher makes an ingenious attempt to measure one vital factor—population—by its grosser appetites. Why not measure population directly? The many subtle forms of rent, the

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still more subtle values of mental effort, and the intervention of erratic taxation, are impossible to measure.

Even if this method is attempted there is no accurate index of the retail price of finished commodities, such as cakes, shoes, clothes and sausages, and the services of the retailer which go with them.

What we can call to our assistance, in calculating population by Fisher's method, is an *estimate* of the absorbing power of rent: an optimistic or pessimistic *approximation* of the time-value of labor in all its varied forms: a *surmise* in regard to the incidence of taxation; and finally the index numbers of those unfinished commodities which lie behind the cake, the shoes, the clothes and the sausages, namely, wheat, hides, wool and hogs. But the index numbers of these commodities, useful as they may be, are simply industry's *guess* at the total quantity of these goods and the probable future appetite of the population, measured in terms of a fluctuating unit. To use the product of an estimate, an approximation, a surmise and a compound forward guess, and record its belated consequences by a fluctuating weight of gold, is intensely interesting, but it is not scientific. To comment seriously on this plan calls for the same patience that the engineer must exercise when some enthusiast proposes to measure steam pressure by weighing the water and the coal which are needed for the boiler, keeping cheerful tally by dropping washers into a bucket. The enthusiast would be firmly led to the front of the boiler where there was a pressure gauge.

Yet Fisher has done enormous service in laying bare the practical defects of our currency, and may be wiser than he seems. His project has two merits: it seeks to approximate population justly by its physical appetites and it makes a gentle concession to those who think there is some sanctity in gold. Poor Galileo was not so tactful, and he had a much harder time of it.

We are wise to respect prejudice if we desire to accomplish anything; and there are still very capable engineers who pretend to express the value of expanding gas against the walls of a

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cylinder in terms of horsepower, though the noble horse has been long since discarded.

Putting aside all other features of Fisher's plan, it must fail to obtain the sanction of the scientist because it employs one product to measure some other products—all of which are partial and secondary material values modified by many factors of uncertainty.

Gold cannot be a measure of value for the same basic reasons. It is a partial product of effort and neither supply nor demand is measurable. Gold, in the past, has never been anything but a measure of distrust and uncertainty; and, while it was limited in quantity, a check upon arbitrary manipulation. It has no interior place in a democracy, except in the arts. Between international traders it will probably continue to be used as long as confidence is lacking and something less bulky and more valuable is not found. As a matter of fact, the commercial value of gold is probably far above the artificial price which we maintain politically to the detriment of the producers who exercise nothing of its tremendous value of domination when massed in a few competent hands which are strengthened by deep-rooted delusion, and backed up by armies and navies whenever the solemn farce turns to tragedy.

Gide deals further with the difficult problem of money as follows: "Every coin should be looked on as an order drawn on the sum total of existing wealth, giving the bearer a claim on some portion or other of that wealth, up to the value marked on his coin."⁸⁴ If "wealth" is largely defined, this is a very significant specification of money; and, *per contra*, a very concise indictment of our so-called "gold" dollar.

Money should be a fractional pledge of value—not a thing—expressed, like every other scientific unit of measurement, in terms of total value; no matter how that total may be modified by its swaying components. The return we are concerned with is not the "intrinsic" quality of the money, nor the "value" marked upon it, nor yet a fixed portion of the sum total of existing goods; but we are concerned with the indis-

⁸⁴ "Political Economy," Charles Gide. 3rd edition, page 289. Translated by E. P. Jacobsen. D. C. Heath & Co., Boston and New York.

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putable right to demand service equally effective under accumulating pressure as that which we rendered. If we sell our effort for one dollar, and receive a dollar which, owing to altered conditions, will only give the right to demand half the effort in a year's time, what satisfaction or inducement is offered by the denomination of the coin?

If in disgust we ceased all extra-effort, exchange of goods might still go on busily for a few years; but when the surplus was consumed, we would be back at the commencement of economic history, with this essential difference: there would be no possibility of making an exodus in search of free land.

The hungry landlord would then look over the fence at the hungry laborer; and, if they were not yet in a mood to negotiate, the landlord would probably go back to his search for volunteer potatoes, where the parings had been thrown out in his days of affluence. Realizing that it was also advisable to get some new planting done, with a reborn instinct for a reserve, he would request the laborer to help. The laborer would ask what the remuneration was to be, and the landlord, having no reserve to draw on, would be compelled to get down to fundamentals. He would in any case, to keep his helper going, have to share a part of his precious volunteer potatoes; but the laborer, also awakened to the need of a reserve, would ask more. If the landlord promised a later day's work to the laborer, he would be laughed at, having never enjoyed any reputation as a physical worker. In the end, the only adequate protection the landlord could offer would be a lien on a portion of the land. The promise of future potatoes would not be acceptable since the sophisticated laborer faces a double dilemma. If the crop fails, he does not get his pay; if it is unduly heavy, a stipulated quantity of potatoes will not enable him to command an equal amount of service from his fellows when he needs it. He realizes that the one thing which will neither expand nor contract with disconcerting consequences is his neighbor's acre and with a fractional lien on this as security, provided taxes are prepaid by the owner, he can always look for his labor to be redeemed. With such security he is not only willing to work, but to work long and hard, so that the joint

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surplus indispensable to orderly community life is again in a way to be built up. If a dispute arose, as it probably would, in regard to the actual area of the fraction pledged, it might be necessary to call in an engineer as arbitrator. He would advise that to protect them both this area should vary with the population of the district, since the greater the population the smaller would need to be the area, and the smaller the population the greater would need to be the area. If this simple statement of the determination of compound value by the employment of essential reciprocal factors were too much for them they would have to take his word for it or go back to their deadlock.³⁵

The most essential function of money is to measure in terms of basic unimpairable value—not of goods—the obligation left unsettled by an unequal or delayed exchange. Money under democracy must then come to be some negotiable lien on land-area, valued in terms of population-density and insured by the full prepayment of taxation, or the cost of maintaining value, this lien when necessary being held by the community, as trustee, to guarantee the issue of a valid national currency which will ensure the just redemption of effort in a zone of self-imposed order.

Now let us assemble the propositions which have been put forward in common terms. The sequence is as follows:

1. *That land-area, population and time, in a region of self-imposed order, are the basic factors, or limits, of economic value.*
2. *That under democracy human effort has been freed from arbitrary control.*
3. *That free human effort varies according to population.*
4. *That the factor of time does not vary.*
5. *That within fixed political boundaries land-area does not vary.*
6. *That control of land-area, if permitted politically, is therefore basic economic power, giving control of effort per hour, and consequently of total value.*

³⁵ See page 174.

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7. *That power and responsibility are complementary.*
8. *That the economic responsibility of economic power (or control of value) is taxation.*
9. *That just taxation must therefore rest upon the same basis as the control of value, namely, land-area, population and time.*
10. *That under democracy effective effort is directly proportional to inducement.*
11. *That the tokens of value, put forward as inducement should then be incapable of partial repudiation, or debasement.*
12. *That the tokens of value, or currency, must therefore bear an integral relationship to total basic value, and can only be finally determined by the product of the same three factors—land-area, population and time—as modified by the cost of order.*

A dynamic ⁸⁶ theory of economics may now be assembled as follows:

The normal human effort toward ampler freedom, being a constant expression of energy in the medium of matter, the value arising from this effort can only be stated mathematically in terms of population, area and time.

Whether conceived as freedom to move, or as a flow and counter-flow of effort induced by the certified right to command, at any time, relatively equal effort in return for effort expended, effective economic value can only be measured in a definite region of equilibrium, or self-imposed order, in which the pro rata responsibility for the cost of this order has been definitely apportioned with relation to population, area and time.

If effort, and the resistance of the area in which it is exerted, are stated in comprehensive measurable terms,—population, area and time,—a mathematical resultant is obtainable

⁸⁶ The word dynamic is employed in preference to kinetic. It has, for one thing, a deeper-sunk niche in our comprehension. In modern scientific terminology the word dynamic includes both statics and kinetics; and we shall have to consider both in economics since we have money and interest, wealth and income, potential effort and effective effort. The word dynamic should also be employed as a tribute to Jevons, the English mathematician and economist, who would undoubtedly have amplified his dynamic conception of economics if he had enjoyed the advantage of being involved in the apparent chaos and the tremendous potentialities of democracy.

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which, at any given moment, expresses the value of this effort due to the national desire of freedom and the national conception of order. This resultant, which is the occupancy-value of national area, may be regarded as national economic unity, and can then be employed as a scientific measure of value, any fractional part of which will remain relatively constant in area and time.⁸⁷

It is perhaps almost too much to hope that this theory will be immediately self-evident: our minds are dulled by very respectable delusion: our affairs at present are in no way ordered in conformity with it; and the difficulty of making any change in a convention without injuring the individual acts as a bar to mental readjustment. There is, however, this to work upon: Our present conception of value, our present methods of taxation and our present international basis for national currency, are all so archaic and arbitrary that they are not giving very great satisfaction. Any proposed alteration in either currency or taxation arouses the protests of those who are fortunately able at the moment "to let well-enough alone." There is, however, some hope held out in this theory which is not offered separately by either the tax-specialist or the currency-specialist: if we make *taxation* directly proportional to the control of basic value and stop there, we could anticipate a perfectly proper protest from those who have exchanged their labor for this control of value in good faith and are afraid of some disastrous shift; if we make *currency* directly representative of basic value and stop there, we could anticipate an equally vigorous protest from our discreet international overlords who almost unconsciously manipulate our present so-called values to their own advantage, and also from those who might fear even more rapid debasement than we now suffer of a currency for which they have exchanged their labor in good

⁸⁷ Time, as a factor, disappears in the actual measure or token of value for the reason that value = $\frac{\text{effort} \times \text{time}}{\text{resistance} \times \text{time}} = \frac{\text{effort}}{\text{resistance}}$. But in any specific measurement of effective value it reappears, as in taxation which measures the time-value of order: interest which measures the time-value of money, or certified freedom: wages, which measure the time-value of purchased effort; and rent, which measures the time-value of land-area.

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faith; but if we recognize simultaneously the good faith of the citizen landholder and the citizen bank-depositor, and take both steps at the same time, so that the moment the responsibility was imposed upon the control of value, that value became fully disclosed and a final basis of currency, we might find that the protest would diminish. For those other citizens who had never looked forward to the exercise of domination without contingent responsibility, and who had not unduly exerted their effort for a currency that could halve its value in a few years, there would be the encouragement of having the responsibility of taxation removed from want and activity, where we place it at present, and of remuneration being integrally related to basic economic value, so that it might be always capable of standing up against increasing pressure, and worth saving for future use, instead of being found debased or spurious at some critical juncture. The practical application of the theory would mean simply this: to the owner of land-area, we would say: "If we are prepared to throw off nationally the debased tradition of a gold-standard of *value*, you will then hold control of value. This we recognize as the proper reward of your past effort. We shall measure this in terms of total basic value so that you may be held responsible, but such measurement will have nothing to do with special values due to past effort, neither will it be a prejudiced personal guess: it will simply be the local census-area value of your land; and in certifying this value we shall also see that it becomes immediately the effective basis of currency."

To the man who holds our present currency like a kite in a gusty wind, we would say: "You now hold negotiable tokens of fluctuating value; we shall honor these by exchanging them for a pledge of unimpairable basic value."

To the man who held neither control of basic value nor fluctuating "value" in the form of our present currency, we would say, "You are no longer to be taxed for effort or need, and for your surplus effort you shall have a pledge of underlying economic value which cannot be repudiated or debased."

Since what is proposed is to divorce our national measure of economic value from the confusing reactions due to alien

or irresponsible control, the most intelligent and significant protest to emerge will come from those whose present unseen, and often unconscious advantage is disclosed—not from the banker, who renders vital service, nor from the manufacturer who is equally essential, but from a small group of "citizens of the world" who are in many cases semi-official representatives of crowned and uncrowned alien powers. These move with dignity and discretion from point to point, wherever in their international empire their ghostly services are most needed during periods of panic and depression. Today, successors in title to factories, tomorrow to land, and in due course to insurance companies, railroads and ships, but never abandoning their first call upon the massed gold which is our bastard standard of value and which we fondly delude ourselves is our property available to redeem our tokens.

It will be realized very clearly that our present economic scheme does not comply with a dynamic theory; for while it is beginning to be felt that national control of value may be vested in the land-owner, the sum of the negotiable tokens of basic value, which we call currency, bears no integral relation to that value. Our tokens are subject to disastrous fluctuations which appear uncontrollable owing to the intervention of an alien and arbitrary factor; while taxation is imposed, not primarily in proportion to the logical control of value through land-ownership, but subsequently on the vulnerable flanks of effort—need and activity—thus debasing our tokens still further.

It is not democracy that is to blame for this; democracy is the logical outcome of our belated decision to divide political power equally—a saving step from insecurity to firm ground. The cause of our confusion is that, so far, under democracy we have devised no scientific means of measuring anything exactly, and have dealt with actual or economic power only as it crowded us into a corner. We have not realized that taxation, interest and ground-rent are calculably related to total national economic value, if we can only lay down the foundations of just measurement by devising an unimpairable unit.

Land-area, population and time—these are the only measur-

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able components of value; and either soon through quickening perception, or later through intolerable friction, we shall come to employ them for the foundation of economic science, for the determination of basic national value and for the construction of an unimpairable measure of value.

The net occupancy-value of national area, in a given time, this is the only index of basic value. Taxation, the hourly responsibility for the maintenance of order—a pre-requisite of value—and currency, a token and pledge of that value expressed in similar terms—these must be measured by the same gauge if we are to compass freedom.

The continuous effort toward freedom, in a measurable region of order—this is the vital thing to comprehend. The physical character of the area in which this effort is exerted and the thin layers of old time and labor are no more important, as far as measurement is concerned, than the paint and varnish on a pressure gauge.

CHAPTER V

GOLD, OUR FACTOR OF HAVOC

THERE is only one rational defense of the gold standard; but this its advocates repudiate, employing it solely as an epithet to be flung at certain other means of measurement.

If by legislation, or what they scornfully call "fiat," the quantity of gold within the country were fixed and an inventory of our wealth taken at the same time, we would then have two known quantities, and could scientifically express a fractional part of one in terms of a fractional part of the other. For one glorious moment we would have a gold standard which mathematically measured *visible value* in terms of ounces of gold. But to maintain this ratio inventors, poets, preachers and scientists would have to be kept under lock and key like lunatics for fear they might make some unauthorized contribution to value and thus upset the legal ratio. Gold also would have to be put under lock and key and made a government monopoly, so that with each increase in visible value, which was properly authenticated by a suitable bureau, more gold could be mined under strict government supervision: the export of gold would also have to be controlled; and in this way, by infinite care and adjustment we might maintain a rude measure of what we now call "*value*." But we would promptly invite smuggling, bootlegging and moonshining—the painful reactions due to an effort to ensure virtue by fiat.

The opposition to fiat is very sound; but only by fiat or legislation can gold conceivably be justified as a basis of measurement. Fiat money is as objectionable as the gold standardist contends; but political discretion, such as we now employ, is still worse from a scientific point of view. What we require for the measurement of value are measurable and ultimate factors. Scientific value, as shown more fully later¹

¹ See pages 110-11.

cannot be determined by product or output which on one hand may be diminished by friction and on the other hand may be amplified by postponement: it can only be scientifically determined by measureable potentialities after taking into consideration the cost of providing order and facilities.

Partly because of its general desirability and its physical integrity, but chiefly because of its scarcity, which at the beginning of its use *almost* amounted to a definite limitation of quantity (an essential element in a measure of value), gold, in the days of arbitrary political power, came to be regarded as the most dependable check upon the undue exercise of individuality in those distressing moments when divine right was noticeably out of touch with divine guidance. Gold, in fact, became a token of value much more durable than the King's favor; and the dour money-lender of that period tried very hard to impress this truth on such of his children as had social aspirations. As for the merchant, the right to call on gold in Amsterdam far outweighed the slowly-moving aid of an ambassador, and was even more potent than the obstructive potentate with whom he had to reckon. Economically, in that golden age when divine right was so calmly misappropriated by mortal men, gold was king of kings, lord of lords and the only ruler of princes. It is no wonder, then, that it was worshipped. It was omnipotent. It is scarcely a cause for wonder that this element of worship, so long ingrained, still lingers in democracy, even though we are quite sure that we have got rid of the personal devils it so capably checked. The real cause for wonder is that we now worship the shadow and not the substance. That this form of worship still lingers may be readily learned by making, in certain conservative circles, a good-natured query in regard to the scientific validity of the gold-standard. One is rebuked, not for curiosity but for irreverence.

The substance and body of gold, then—not its image, as today—was rightly regarded as the least impairable reward of effort, and was accepted as a measure of value because it was a most effective measure of individual freedom—freedom to move, freedom to act, and freedom to choose—and this is

Note, *Diagram B*

If gold remains "free" then it is unmeasurable, and a measure of value that is unmeasurable has no use as a means of measurement. It would be just as rational to employ goats for milestones, first stipulating solemnly that they must be "free."

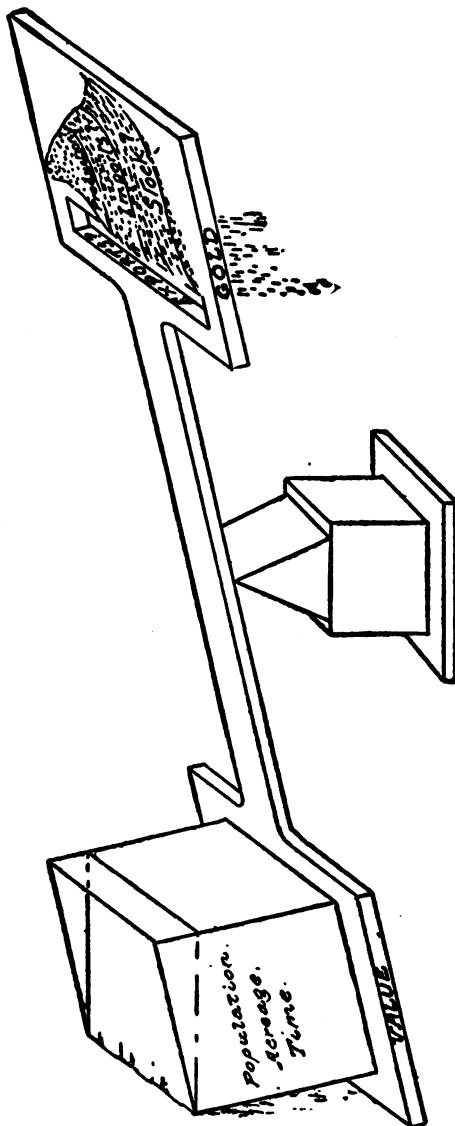
Gold is simply one of many useful commodities, subject to private production; and it should not be necessary to point out that a dimension which may be increased at will has no relation to measurable value.

If economic value is not the assurance of freedom it is not worth bothering about. If freedom is in any way linked to a privately produced, or privately reduced, commodity, it is not worth striving for.

If economics is a science, and is concerned with the measurement of economic value, then it must put forward some indisputable unit of value. If this unit is to be comprehensive it must deal with the measurable limits of freedom—and we should be devoutly thankful that these are remote. If our token of value (or freedom) can be based on a commodity capable of being carried in a vest pocket we shall find that our freedom can be handled in the same way.

If, during any given time, and in any given area, Effort, the cause of value, Order, the pre-requisite of value, and Freedom, the essence of value, are in any way ultimately limited by population, area and time, and our conception of national order, then these factors must be represented in our unit of measurement—unless the most elementary principles of every other science are ignored.

THE GOLD-STANDARD METHOD
OF MEASURING VALUE.



There is fortunately no need to argue this point. The establishment of the Federal Reserve System, permitting the addition of officially created credit to gold as a base of currency or sufficient argument against it can be found elsewhere. We do not know them off.

DIAOGRAF B

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exactly what a scientific measure of value must still be today—a measure of freedom, not freedom $\times \frac{100}{243}$.² It also, as the economists properly contend, must be redeemable—but in freedom, which is possible, not in gold, which is mathematically impossible.

We know this: our official conception of money, our measure of value and medium of exchange—the inducement of effort and the key to freedom—still takes its bearings from the gold standard, whether the angle of departure is 30, 40 or 80 degrees. In economics, the science responsible for the measurement of liberated human effort, we still hold religiously to gold as the only tangible token of value, quite unconcerned by the fact that it bears no relation to this effort, or to the time and area that define it.

As a matter of fact all our economic tradition is international, and being international is necessarily more political than scientific. If value is in any way due to order, and if national conceptions of order vary, a unit of value that has international scope and can traverse different mediums at the same velocity must possess some remarkable inherent qualities. If such a thing exists it is well worthy of our worship. But it does not exist. It is sheer delusion. We might just as well take an alarm-clock to Mars to get us up in time for sunrise.

Internationally, the best we have in gold today is an emasculated arbitrary exiled in the United States; and it is emasculated not only because men are blindly striving toward a larger and juster conception of value and freedom through such schemes as the Federal Reserve System, the minimum wage, single-tax and Professor Irving Fisher's commodity unit, but because the one *almost* royal quality of gold has been impaired by the cyanide process, by tube-milling, by dredging and by multitudinous spurious tokens which pretend to represent it. Safely housed in New York and badly shaken, it still petulantly asserts to solemn regents (who couch these irrational demands in royal form), its right to dominate economic value—and the human effort and freedom so disastrously involved.

² See footnote, page 228.

If in the checkered area of international arbitraries gold is still essential owing to lack of a common code of order, let us admit it, deplore it—and use it, but let us use it frankly as God-fearing brass-founders use their buddhas—as articles of barter because they are highly desired merchandise of small bulk, not because they are capable of breaking a drought or healing sickness.

The present utterances of the international controllers of massed gold and their many conventional-minded supporters, when not actually disingenuous, have a delicate flavor of naïveté which it is almost painful to question.

No one can deny that we have enormously increased our certificates of value, whether they are obligations "payable in gold" on demand, which we call currency, or deferred obligations also "payable in gold" which we call bonds.

10,093,275,393⁸ of these so-called gold dollars are owing to us by foreign debtors. It is suggested, not so much in the name of charity, but for the sake of reestablishing the international domination of gold that we cancel these obligations. As a contribution to the cause of what we were told was "freedom," or for the sake of charity, it would be a magnificent act, but it would also be a magnificent piece of folly unless certain important considerations are faced frankly. While these debts may be generously cancelled we have unfortunately endorsed and negotiated the corresponding obligations. They are still in the system and must be redeemed by the payment of over 1,650 tons of privately-owned gold, which is obviously not available except upon very onerous terms—if the law of supply and demand still holds good!

The first precaution, then, would be a clear-cut and acceptable program for raising this sum from our own citizens by taxation. Perhaps some of the advocates of cancellation will suggest a sales-tax, thus fastening this burden as nearly as possible on the wage-earner in proportion to his need!

The second consideration, which must appear very cold-blooded when such a generous gift is under contemplation, is the equity which can only be met by an undertaking from our

⁸ See page 124.

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debtors that the new territory acquired by them during the days of their borrowing will not be effectively closed to us by tariffs and prior concessions. Otherwise, the United States taxpayer provides for the fences and the gamekeeper, and the alien imperialist enjoys the hunting. This situation is perhaps a delicate one since in the name of "freedom" we have already preëmpted some preserves of our own.

The third sophisticated consideration is whether with their obligations to the United States taxpayer generously cancelled, our foreign debtors are not promptly going to be encouraged to incur new private obligations to less sentimental money lenders in exchange for the huge stock of gold now resting idly in United States Government vaults, to the embarrassment of its international owners, thus serving a double end by putting it to very profitable exterior use and assisting "deflation" at home,⁴ incidentally redoubling the taxpayers' burden.⁵

To leave in our domestic system certificates of value to the extent of \$10,093,275,393, and then waive our call on the so-called value itself, is painful enough to contemplate, since this would dilute the value of every dollar now in the savings banks; but to open the way to the profitable export of our focus of value is much more painful to most of us, though not necessarily to its private owners. However, it is an ill-wind that blows nobody any good, even under a system that bases "value" and the individual freedom so obviously involved, upon a small and active pea to be found, at times, under one of many shells.

If we have the courage to base taxation upon the control of value instead of upon need and activity, and then claim our full heritage of the measurable value which results, we could afford to be generous and cancel all indebtedness. (And we could also afford to remind our debtors that we were under the impression that the World War was being fought for freedom—not for Mandate C.)

Because we do not recognize and lay claim to our full

⁴See footnote, page 267.

⁵See page 139.

heritage of national value and because we still place the burden of taxation on the needy and the active our hands are tied. Effort is potential value: freedom is accomplished value, and because we continue to attempt to express these two phases of value, within our boundaries in terms of ounces of gold we still live in a state of continual bondage and revolt. Our liberty is checked today as much as it ever was by the linking of abstract patriotism with allegiance to a mad monarch.

The tradition that economic value can be measured by gold has many of the aspects of a mental disease; for we worship our self-created arbitrary, and from the mouths of its highpriests we hear solemn and unctuous statements that we fail, through very familiarity, to protest against as vicious. We still hold to a debased belief to which we sacrifice our worn-out workers and their children even while we send missionaries to the Far East.

We are so used to the ritual that even now it may be stated and awake no response but approval. Here is a specimen homily delivered by a banker.

"In the present chaotic condition of economics and finance we have at least one solid fact to tie to, and that is that the dollar has 25.8 grains of gold." Comment is not necessary.

Here is another, a statement published with approval by a leading financial journal.

"The world is sick, awfully sick. We do not expect it to recover until it discards the quack doctors that are now treating it. Instead of stimulants such as inconvertible paper money, high tariffs, income and other taxes, subsidies, bounties, bonuses and doles, it needs a plain diet of simple foods, of balanced budgets and of stable exchange." (*So far so good, if the simple food is not only for simple people.*) "For its monetary troubles it should take the gold cure instead of the paper cure." (*We are sick, awfully sick, and the remedy suggested is to take a further dose of what poisoned us.*)

The tradition of a fixed economic value for gold is so strong that it colors much argument. One more liturgical statement will be cited which is extracted from the editorial of a commercial daily paper:

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"People must live on goods. In order to do so goods must be produced. To get them produced they must be paid for with *real* and *substantial* pay. To pay for goods with money requires that the money should have a *fixed value*. To have that value it must represent *something* which people will exchange for goods." The italics are inserted by the writer. This whole statement reeks with innocent superstition. Our gold obligations, whether prompt or deferred, are not real or substantial: they rest on political discretion. They have not a fixed value and do not mathematically represent *something*. Even if they were backed entirely by gold we would be no better off for this has no fixed economic value: it would still have a fixed physical value—density, malleability, color and durability—and practically no economic value!

The uses of gold are obvious enough. Wherever there is distrust and disorder and the possibility of arbitrary political action, some article of highly concentrated commercial value will be required to settle balances. It is possible that the ritualist will find himself in agreement with this assertion; but it does not say much for his conception of democracy.

The havoc worked by the use of gold as a basis of value, within an area where the potential volume of effort is as great as that of the United States, is due largely to real or artificial scarcity. From a small focal area it is projected over a billion acres, and a slight variation of quantity at the centre results in alarming distortions of the far flung image. It is not only insufficient in quantity for the purposes of trade, but it is insufficiently controlled and at times poorly projected into space. It is either desperately wanted, or not wanted at all. It has, however, great commercial value as an international medium of exchange and for use in the arts; and it is probable that its free market value today would be far greater than the official price. Platinum which enters an open market, and is a poor competitor of gold in the decorative arts, has risen far above its normal parity with gold. Quite apart from its politically-diminished purchasing power in foreign markets from which, owing to tariff-barriers, it returns with a half-filled basket, gold is inadequately paid for today at home in

terms of goods and services. The guileless gold-miner sends his bullion to the mint, and in due time it passes from the mint to some bank and, finally, to those few who are powerful enough to deal with it in mass.⁶ It is much like the control of an accumulation of water. Ten million men may each hold a bucketful which they have drawn painfully from wells and springs. They are conscious of its momentary worth, but not of its potential power. If all these small holdings of water, amounting, in the aggregate, to fifty million gallons, are carried painfully up hill and placed in one insecure reservoir, controlled by a few, we face a potential menace, and are relying upon the discretion of those few.

The unfortunate gold-miner is deluded by the fact that he gets a *definite number* of so-called "gold" dollars for his gold; and forgets that these dollars have no *definite value*. Like the farmer, with his wheat, he is encouraged to produce and export. He may send his product *out*; but is not permitted to bring an equal value *in*.

If we decided to abandon the use of gold for purposes of national measurement of value the present holders of title to gold could quite properly turn on us and demand their gold as Shylock did—and we are in a worse position than poor Antonio. If they insisted, we should call on Congressman McFadden⁷ to intervene and force through an excise bill: we would give them their gold and then tax it, as we did with liquor merchants during the war when we imposed successive so-called "floor-taxes." Such a remedy is not equitable: but it would prove unavoidable because equities were never considered when we were bound over by those in authority to pay out 23 billion gold dollars. If we must redeem, we shall redeem and confiscate in the same act, which simply means

⁶"The Government receives whatever bullion is offered at the mint, coins it and *virtually* returns it to the depositor. *It has nothing to do with the supply.* That depends upon the miners or the traders or bankers who import or export it."—"The Money Question," *Bulletin*, National City Bank, New York, April, 1922. (The italics are inserted: it could not be better stated.)

⁷The McFadden Bill proposed an excise tax on gold to be paid over to the gold miner as a bounty.

Note, *Diagram C*

The graphic statement opposite may seem to exaggerate the situation to the advocate of the gold-standard, who will contend that our gold supply, instead of being an inverted cone, is a thin basic plane upon which all other values rest. If this contention were valid we would not find producers of value ruined at regular intervals; and the aged exerter of thrift forced to go to work again, to make up for the duplication of their accumulated units of value.

Conceding the difficulty of graphically representing economic chaos the cartoon may still be validated by the record.

One of our large insurance companies in soliciting further business writes as follows under date of May 1st, 1922:

"It has not occurred to the average man, who has NOT taken out additional life insurance in the past four or five years, that he is now carrying only about 60% as much insurance.

"The face amount of his policy may be the same, but the lower purchasing of the dollar makes the difference."

The National City Bank⁸ in discussing the effects of the gold-standard before the advent of the Federal Reserve System states:

"The principal relief was by importing gold from Europe, to obtain which securities and products were sold at a sacrifice."

And Bradstreet's *Journal*⁹ states, that notwithstanding the beneficent action of the Federal Reserve System which permitted us to let off steam gradually instead of blowing up the boilers, 1921 must be remembered for furnishing the heaviest total of large commercial failures and the second largest total of bank suspensions since modern failure reporting was begun in the early eighties.

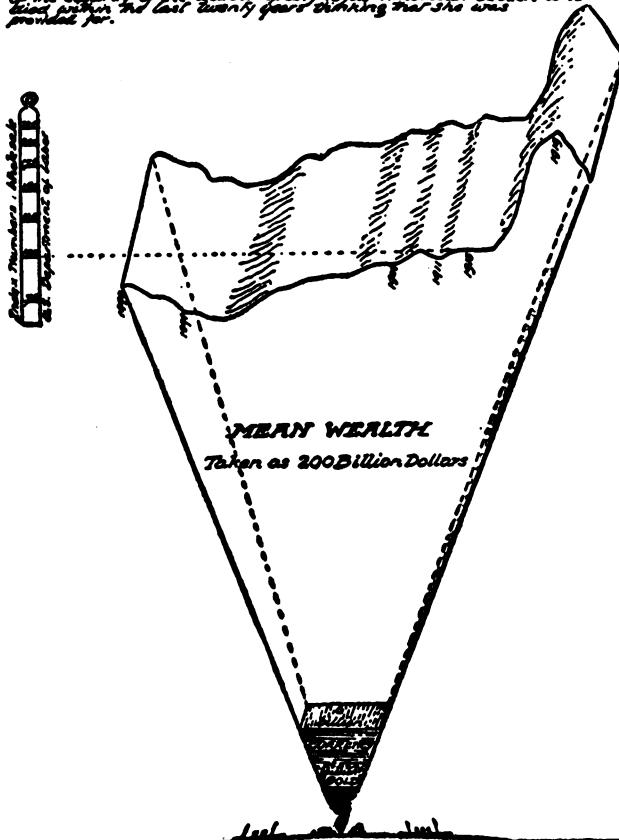
We could not find more conservative witnesses, and it is fortunate that their observation overlaps so cleanly. Let us claim them as witnesses for the prosecution and turn them over to the defense for cross-examination.

⁸Footnote, page 120.

⁹Footnote, pages 329-30.

DIAGRAM C
AN ECONOMIC CARTOON

The sketch below indicates, very roughly, the quantitative relationship between gold, currency and wealth, and the consequent disturbances in the plane of value, owing to the fact that all these are based upon a small stock of privately-owned gold subject to export. The distortion of the upturned base of the inverted pyramid has something to do with the comparative stability of exchange rates given by the controller of the central bank of a country. American children who could purchase the last twenty years thinking that the world was provided for.



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that our obligations are redeemable, not upon demand, but if demand is quiescent. We shall not in all probability have to go to this extremity; for the holders of our promises, as soon as they break away from the domination of the gold myth, would prefer a scientific unit of value which will be as good in 1940 as it is today, unless they still delude themselves that deflation can be forced on a community which is organized politically as is ours.

Gold would be deprived only of its havoc-value within our boundaries. If the great financial nuncios care to go on playing the old game of shifting the center of gravity internationally, they are welcome. There will always be great zest for manipulation, hazard and domination on the part of a powerful few. It does not greatly matter if they play out-of-doors.¹⁰

"Moreover, it has repeatedly happened that a feeling of distrust has spread over the entire country, so that there was need for more ready cash in every bank and banks were unable to help each other. The last time this occurred was in 1907. Under our banking and currency system at that time the amount of money in the country was practically a fixed quantity. *The principal relief was by importing gold from Europe, to obtain which securities and products were sold at a sacrifice, and loans negotiated in large sums.* By thus demonstrating the lack of elasticity in our currency system the panic of 1907 had more to do with the establishment of the Federal Reserve System than any other one cause. The Government is not equipped to supply currency upon the security of commercial paper except through some such organization as the Federal Reserve System."—"The Money Question," page 13. *Bulletin*, National City Bank, New York, April, 1922. (The italics are inserted.)

It is difficult to interpret the paragraph quoted in view of its context. It is put forward in a general defense of the gold standard, which is stated as follows:

"Moreover, as we have seen, the most effective way, and the only practical way, of maintaining a paper currency in conformity with the standard is by making it redeemable in the standard, or, in other words, by making them interchangeable. This should be kept in mind as the reason why provisions for redemption are necessary."

If we assemble these proposals we find:

- (a) That a valid currency must be redeemable in gold.
- (b) That if this is insisted on we may get a panic.
- (c) That if we get a panic, gold—"the standard of value"—*must be purchased abroad at great sacrifice of real values.*
- (d) That the only way to prevent this is to permit the Government "through some organization" to issue currency based on credit—not on gold.

It would seem, therefore, fair to ask whether our currency is now based on gold or political discretion.

The whole complication arises from the fact that the so-called "value" measured by gold is still arbitrary. It is political: not economic. If the world had a common conception of order and freedom, we could then, to great advantage, employ a common standard of value; for as far as the science of economics is concerned boundaries are not conventions to be respected but destroyed. Politically, until freedom and self-imposed order are general, boundaries are essential. Internationally we are not ready for free flow. With our varying conceptions of economic order we might just as well run a 100,000 volt current through our Christmas tree illuminations, as throw all the different international pressure systems into one, at this time. Gold will probably serve for many years to come as a transformer and conductor of international energy.

If we put our own house in order in economic terms, we shall still require gold for international trade. Instead of making two calculations as we do today, converting British pounds into terms of bullion and bullion into terms of American dollars, we shall deal frankly in bullion. An American merchant would cable London for a price on tin. He would be told it was 20 oz. of gold per ton. He would telephone his bank, and instead of asking for the exchange rate he would ask the forward price of gold. On the parity of other commodity prices he might well be told that it was \$40 per ounce, and he would thus know that his tin would cost him \$800 per ton. This, in effect, is what we do today, but less simply.

It is very probable that there was no more than sufficient gold in international circulation before the war than was needed for trade. If there had been enough the business of the international bullion-dealer would have had insufficient excitement to hold some of the great men who enjoy it. It is only necessary to study the illuminating comparative charts prepared by Professor Irving Fisher to realize that the dominance of gold was international.¹¹ The same paradoxical symptom of periodic "*over-production*" was in evidence in a still underfed

¹¹ "Why Is the Dollar Shrinking?" Irving Fisher. Pages 163-167. The Macmillan Co., New York, 1914.

and underclothed world eager for freedom, indicating that the conducting medium was capable of maladjustment, if not manipulation. "Over-production" is a word as ignorantly used in economics as, formerly, the word "decline" was used in medical diagnosis. In both cases there is a specific foreign element to be looked for, alien to order.

It may be deplored by some that in international exchanges such an arbitrary medium as gold has to be employed. However, it seems likely that it will fall into disuse as international good faith and order are established. At the present time we neither exercise nor look for good faith. We may buy copra in New Guinea, which has recently come under the domination of that advanced democracy, Australia, and find that an export tax has suddenly been imposed, or that we may not carry it in our American vessel from Port Moresby to Sydney, since that (because of the world war for freedom), has suddenly been made "*coastwise*"—and this is a leaf out of our own book! The Australian may sell his wool at a price delivered New York, duty paid, and find that in the interval we have raised the duty. We are not yet ready to treat our foreign neighbors as sister states, whether wisely or unwisely may be fairly argued. Our transactions are guarded and owing to the occasional necessity of a quick get-away, our international medium of exchange must be tangible and portable, even though we can avoid the delusion that it has an unchangeable value.

As things stand now we are all aware that the United States has too much gold and the rest of the world not enough. As stated elsewhere,¹² there was probably insufficient to go round before the dislocation of war. In a fight that was opened nobly in the name of Freedom our allies went down into the pit; and for awhile, in their desperate extremity, we fed and clothed them. Finally we went down to help them. Between us all the menace to the world's freedom was stamped out: but we not only left them in the pit, we very reluctantly came home with the ladder, their means of exit; for many of these countries are far more dependent upon international communica-

¹² See page 314.

tions than are we, who now aimlessly hold, as a pledge, the one accepted medium of communication.¹³

The domination of gold, both nationally and internationally, is due to tradition, political disorder and lack of faith, and results in sudden unforeseen economic disenfranchisement. It is a negative, a restrictive, power. In spite of repeated disasters we still permit measurement of value by arbitrary check instead of flow—and it is not always our own citizens who decide upon the periodic days of atonement for over-confidence.

The orthodox economists will turn and assert that they make no pretense that gold represents value, but is simply a focal point which is measurable, and is also where we can see it, namely with the United States Treasury or the Federal Reserve Banks. As a matter of record¹⁴ the United States Treasury on Jan. 1, 1922, held as assets, gold amounting to \$380,188,972. Of this amount \$152,979,025 is definitely earmarked as a fund to support the issue of Greenbacks, and the balance, \$227,209,946, is held against other obligations, such as National Bank Notes, Federal Reserve Notes and Federal Reserve Bank Notes.¹⁵ It does not belong to the Government:

¹³ Mr. Mellon, Secretary of the Treasury, writes: "The market for gold is international, and in the present state of the exchange the United States draws gold from every quarter and receives practically the whole gold production of the world, with the exception of what goes to the arts. The effect has been an unprecedented gold movement to this country during the past year or more, which has resulted in net imports many times greater than this country's normal annual production of gold."—*Engineering and Mining Journal*, New York, October 22, 1921, page 669. McGraw Hill Co., New York.

The *Guaranty Survey* states: "The United States, formerly a debtor nation, is now a creditor, the transition having been hastened by the World War; and our enormous accumulations of gold, and its scarcity abroad make it impracticable for other nations to meet their obligations to us in gold payments"—*The Guaranty Survey*, March 27, 1922, page 1. Guaranty Trust Co. of New York.

¹⁴ United States Treasury Department Circulation Statement, Jan. 1, 1922.

¹⁵ "Includes the gold reserve fund held against issues of United States notes and Treasury notes of 1890 (\$152,979,025.63 on Jan. 1, 1922), and the gold or lawful money redemption funds held against issues of national bank notes, Federal Reserve notes, and Federal Reserve bank notes (\$244,746,905.30 on Jan. 1, 1922). Does not include deposits of public money in Federal Reserve banks, national banks, and special depositaries (\$456,870,241.82 on Jan. 1, 1922), nor does it include funds held in trust in the Treasury for the redemption of outstanding gold and silver certificates and Treasury notes of 1890."—United States Treasury Department Circulation Statement, Jan. 1, 1922.

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it belongs properly to the holders of these particular vouchers. Our other formal deferred obligations, which amount to \$23,251,139,569, are almost entirely in terms of gold and fall due at intervals during the next 25 years. At the present time the interest amounts roughly to about \$750,000,000 per annum, in gold.

From the principal sum, there may be deducted \$11,240,-641,640, securities owned, if we are sufficiently optimistic to include as a valid credit the sum of \$10,093,275,393, in gold due to us from our allies, who have no gold. Taking the most cheerful possible point of view we have then net obligations as follows:

Public Debt.....	\$23,404,118,594
Due, as above.....	<u>11,240,641,640</u>
Net Gold Liabilities.....	\$12,163,476,954

Against this, as stated above, it would appear that the United States Treasury holds \$380,188,972, or about 3.2%, but even this 3.2% is already ear-marked to support other obligations.

As for the Federal Reserve Banks, on December 28, 1921, their position was as follows:

Liabilities	\$4,292,569,000
(Deposits, F. R. notes & F. R. banknotes)	
Gold	<u>2,869,600,000</u>
Difference	\$1,422,969,000

If we add the gold liabilities shown above we have the following:

U. S. Treasury.....	\$12,163,476,954
Federal Reserve Banks.....	<u>4,292,569,000</u>
Total Liabilities	\$16,456,045,954

GOLD, OUR FACTOR OF HAVOC 125

If we add the visible stock of gold enumerated we get:

Gold in Treasury.....	\$380,188,972
Gold with F. R. Banks.....	2,869,600,000
Total	\$3,249,788,972

This gives us an *apparent* gold reserve of about 20% against our official gold obligations.

Owing to the undoubted basic solvency of the United States, as a healthy going-concern, in terms of land, stored effort and current effort, and owing to the taxing power that we hold through our political freedom, there is not the least need for alarm. But there is occasion for concern in regard to the distribution of this responsibility, since any sudden flare of political bad temper means that the units now owned by many of our citizens are again debased. A very grave doubt is held by the wage-earner, the producer and the manufacturer as to the erratic incidence of the inevitable taxation; since of the total amount enumerated *not one ounce* of gold is the unencumbered property of the community and the bulk of our obligations have still to be collected from the taxpayer.

Summarizing the figures above, the visible gold is as follows:

U. S. Treasury	
Held against greenbacks.....	\$152,979,025
Held against other liabilities.....	227,209,946
Federal Reserve Banks.....	2,869,600,000
	<hr/>
	\$3,249,788,971

This is an imposing total; but does not alter the fact that the redeemability of our currency rests upon our ability to borrow from Peter to pay Paul. If Peter gets too ambitious and makes an advantageous loan to Germany, Paul is going to get panicky. But again it must be emphasized that there is no need to worry on this score. If Peter becomes too venturesome the Government will assert its power and exercise control. This means however that we openly admit our allegiance to the fiat money class. The "redeemability" of our obligations

does not depend upon our ability to redeem: it depends, first, upon Peter's foreign ventures, second, upon Paul's alarm, and, finally, upon our ability to make terms with both of them at the expense of the exerts of effort.

The orthodox may further assert that even the small amount we have is ample for our needs. It is—for the purpose of satisfying an uninterested demand; but, however ample at the moment, it is not constant or calculable and therefore has no conceivable relationship to national economic value. Because of the very fact that we hold here in momentary custody all this stock of gold subject to individual demand, other so-called gold-standard countries are in a state of panic. They are not devoid of potential wealth—fixed capital, equipment, ample acreage and a population eager to work; but they are bare of raw material and are insulated in time and space by their lack of the conventional medium of exchange and the conventional guaranty of deferred payment. If their bidding for this vital token grows more urgent, and faith becomes greater in their ability to break through our tariff barriers and tender services, there is nothing to prevent the loan of this gold to them at a handsome rate of interest by the present owners.¹⁶ As a consequence, we may well be thrown into unnecessary confusion. This may sound absurd; but following the crash of 1907 we were taught to be very grateful to certain financiers who saved us by bringing back our basis of fundamental economic value—in a ship—at great sacrifice to the holders of real value¹⁷—here is the scientific absurdity!

So bemuddled are we by economic ritual that we take the havoc for granted, though we know that in physics it would be preposterous. Imagine for a moment that the British Government were in a position to lend one half of their Empire at 8% interest to Mars; and, owing to the resulting shrinkage in the mass of the Earth, our physical units of value were correspondingly affected. Boundaries would overlap, velocities would alter and trajectories would have to be calculated anew. We would object strongly to this alien interference

¹⁶ See footnote, page 267.

¹⁷ See footnote, page 120.

with our standards of value since one of the parties to any contract involving acreage would be ruined. But to the archaic international system of economic measurement we employ in democracy, we do not object. We permit private or alien interference with our "basis of value"; and to salve our consciences we give the victims of extended contracts our old clothes.

There are some very pretty problems involved in estimating the control-value of gold to the present owners. Shall we measure it by the havoc among the "bulls" or the "bears" (or both) caused by fluctuations in "value"—or shall we measure it by the alterations in the prices of bonds which are a title to dollars, or stocks which are a title to goods and services? The ritualist will again intervene at this point and say that these fluctuations have nothing to do with the gold-standard but are matters of over-production or under-production. Let us try to extend his horizon, for he is confusing cause and effect. General "over-production" is a classic myth: all it implies scientifically is maladjustment. We are witnessing the tragedy of frustrated economic flow, which, as history has repeatedly shown, is capable, if too long ignored, of transforming itself into exceedingly effective and uncontrollable physical motion: we call it revolt, and shudder. In mechanics we view it apprehensively as the heat arising from friction and hastily abate it by lubrication to prevent ruin. In the utilization of steam it is indicated on a gauge and eased before it blows the plant to pieces. In electricity it is light or heat or sudden death according to our previous experience. In that most subtle form of energy which we have so far attempted to measure—radioactivity—it is a benign fluorescence or that particularly nasty phase of disintegration which we call the "Becquerel burn." If the ritualists would read either history or physics with perception, they would not worry about over-production, but they would worry a thousand times more about our habit of interposing an arbitrary barrier to exchange, and our zest for penalizing effort, thus frustrating effective demand.

What they call "over-production" is either due to our archaic system of taxing need and effort, thus cutting down the factor

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of demand, or it is a foolish response by the producer to the fictitious "gold-dollar" which we still insist upon interposing between supply and demand. This acts as a bait, and just as soon as it is taken, and the trap sprung, we get logically enough under-production and unemployment. The producer and wage-earner in due time are let out of the trap—but upon terms. What we must try to arrive at are these terms if we are to measure the "value" of this havoc to the intelligent controller of massed gold.

Let us first realize that in a well-ordered community the co-ordinated work of a thousand men upon ten thousand acres should constantly become more effective. This means that a fractional unit of, say, one man upon ten acres should steadily command more return. Upon this basis prices should have declined over an extended period, owing to growing co-ordination, just as an automobile runs more smoothly, a ship "finds" herself by use, or as the same kilowatt-hour gives us more value in a Tungsten lamp than it did in a Carbon lamp. But prices actually have risen, and this is not because of the very dubious "law of diminishing returns" which, even if it should prove valid, has certainly not yet emerged in the United States. We may have exhausted some of our oil-wells, but we have developed, up to date, hydro-electric energy per annum amounting to nearly 16,500,000,000 k.w.h. and it is estimated that we can look forward to an ultimate development of 456,172,400,000 k.w.h. This is estimated to be the equivalent of the labor of 1520 million men per annum, and the cost, based upon past experience, is calculated to be not more than 1½ cents per day per man-power. This is obviously something to set against the law of diminishing returns. It is one of the first-fruits of freedom and order in the realm of physical economy.¹⁸

A valid unit of value, then, should buy more rather than less than it did in 1776, and it is probable that the dollar does buy much more in the way of sanitation, education, convenience and order than we reckon. Unfortunately we cannot accurately compute this or anything else without any means of

¹⁸ Compare with our mechanical emancipation. See pages 324-6.

measurement. What we can reckon is the havoc-value of the dollar by the intervals between the peaks of inflation and the troughs of depression, which represents not the virtue, but the viciousness, of our standard to the community.

There is, unfortunately, at this point a technical detail to be explained. If this, for the sake of the layman, is done very simply, there is a probability of offending both the engineer and the economist. However, facing this double risk, it is necessary to show that the full vibration reflected by prices is not revealed in the very concentrated "price-curves" we are accustomed to scan. These are a little like the charts upon

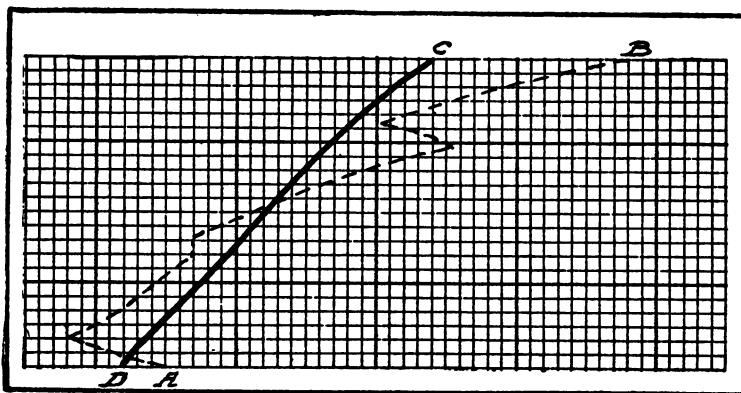


Figure 2

which a modern mother records the progressive weight-value of her child. Such a chart from 1910 to 1920 might show a benign ascending curve from year to year: but taken day by day there are very pregnant irregularities which represent some crisis when the child's life hung in the balance. In the same way the annual fluctuations of our unit of value may result in a curve which looks like the profile of a gently rolling country, but if charted month by month, resembles much more nearly the jawbone of a crocodile. A curve from the hinge to the tip of a crocodile's jaw may appear fairly benign, but it does not help the victim.

At the bottom of all this is the fact that the frequency of a vibration per second is much more important than its maximum

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amplitude per annum, or the path of its travel. A vibration indicated by the line A-B is of much more value, whether expressed negatively or positively, than a vibration indicated by the line C-D. (See Figure 2, page 129.)

Now, to get down to figures: During the years 1914-1919, taking troughs and peaks, prices varied roughly as follows:

Year	Index Number	Increase per year
1913	100	0%
1914	100	0%
1915	101	1%
1916	124	23%
1917	176	52%
1918	196	20%
1919	212	16% ²⁰

This indicates an average variation over 6 years of 18.66% per annum,²⁰ or 1.55% per month, so that, while our dollar-wealth per capita grows beyond our wildest hopes, we find it very difficult to pay the milkman;²¹ and the true underlying significance, is that the controllers of goods and services were asserting their temporary power over the holders of money, while the unencumbered owners of land were sitting back and rather enjoying the whole wretched performance, just as we enjoyed the spectacle of the first thrilling advance of the Russians upon Germany, or the Italians into Austria. We had all the thrills and none of the hazard.

We were treating the controllers of gold, and their unsophisticated satellites, the holders of dollars, more and more rudely every month; but unfortunately, at the same time, we were doing great injustice to many innocent followers—savings-bank depositors, insurance-policy holders, retired workers and pensioners. This episode appears to disprove the con-

²⁰ "Wholesale Prices 1890 to 1919," U. S. Department of Labor, Bureau of Labor Statistics. July, 1920, page 15.

²¹ See page 198.

²² According to the Bureau of Economic Research, the per capita income of 1918 was \$586, but its purchasing power was only 372 dollars of the 1913 brand. "Income of the United States," page 76. Harcourt, Brace & Co., 1921.

trol value of gold, since it represents a very well-sustained assault upon the outposts of this ancient stronghold of arbitrary power. But we are apt to grow over-bold. After suffering with great dignity, for months at a time, there was a sharp call to arms, and we were routed with appalling losses. To realize this we must look more closely at the course of events.

If we set aside the pleasant record of our annual advance against the intrenchments of the owners of title to gold and gold itself, and take the details of a year such as 1919, where

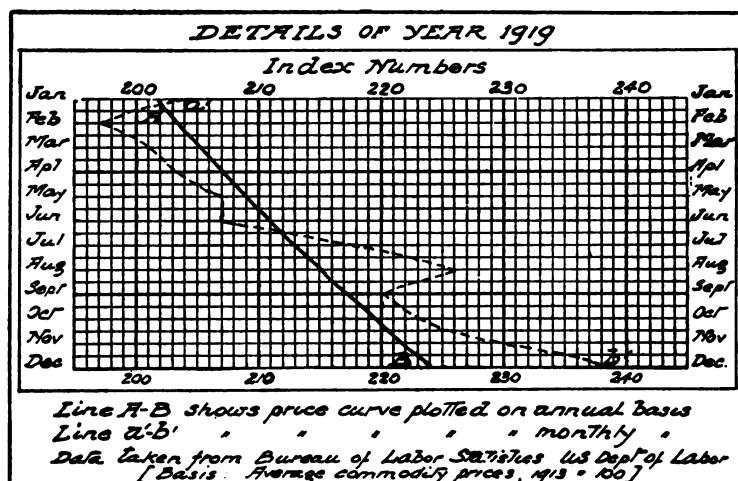


Figure 3

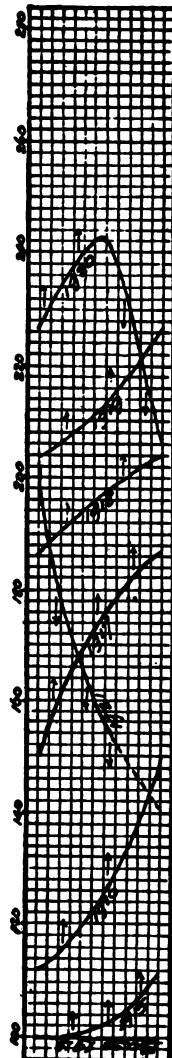
our total gain was 8% (and flattens out very nicely in the general curve), we get a much more chastening record.

This diagram means that we lost disastrously in two very successful raids upon our complacency. Between January and February, and between August and September, we suffered sudden reverses.

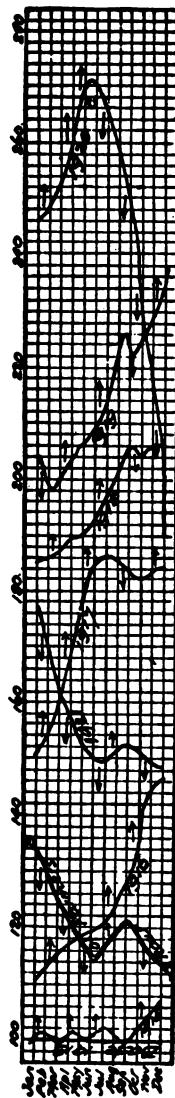
In financial terms what happened was that confidence outran discretion: credit (which is disastrously measured in terms of gold) was suddenly checked. The indemnity, in corn and lard and beef, was duly paid by the owner of goods to the owner of money. It is shown in the record.²²

²² See page 132.

**THE BATTLE OF THE STANDARD
between
THE OWNERS OF GOODS AND THE OWNERS OF DOLLARS**



The less distressing Summary.



The more distressing details

Prices are shown here as advancing or retreating, instead of rising or falling as is usual. The data are taken from the records of the U.S. Bureau of Labor Statistics.

In the lower diagram there are two points worth careful consideration, apart from the disastrous fluctuations which only become apparent in the monthly record. These are:

1st. the salient marked C, still held by a few abandoned titans;

2nd. the encroachments marked A-B, where the unfortunate producers of goods try to defend themselves in, after abandoning nearly all they owned from the standard of the engineer, after chart shows above, it is purported to do a record of value, avoid capture either gross advances in avowing fiction, or a worthless gauge - or both.

Diagram D.

But the casualties of 1919 are light compared with the rout of 1920 and 1921. At many points we are driven back, as our enemies boast, to the old lines of 1915, and we have left behind us booty beyond reckoning which they are now engaged in picking up while they consolidate their gains.Flushed with victory, they sound their terrible battle-cry "Deflation," their ranks swelled by an army of bond-holders who have deserted us in our retreat. Isolated groups, consisting of the stronger unions who were left behind, are still holding their ground, and for the moment the attack is being concentrated upon them, while the War Finance Corporation is acting the part of a Red-Cross unit, and taking care of the wounded in the devastated Iowa corn belt where there was unparalleled slaughter.²³

It is the loss incurred during these sudden raids that justifies us in speaking of the "havoc-value" of gold, particularly when we consider that no uniforms are worn, and thoughtless combatants suddenly change sides during the course of battle—which only makes the havoc worse. Shylock caught Antonio between the lines and had no hesitation in asserting that three thousand ducats were worth a pound of flesh taken from as close to the heart as possible. Portia intervened with a technicality to everyone's relief; and the Court sustained her.

Nevertheless, vindictive as he was, as a conventional gold-standard advocate, preaching deflation and insisting upon "redeemable" obligations, Shylock had a perfect case. He was thinking of gold in terms of its havoc-value, which rises at critical times far beyond its conventional worth. But, in the end, Shylock was glad to get away without losing his life; and it is this discretion which will inevitably be called upon if the exerters of effort—the wage-earner, the farmer, the producer, the manufacturer,—and the intermediate agents of exchange,—the banker, the carrier and the trader,—awake to their common handicap and state their common case.

²³ The War Finance Corporation, with Mr. Eugene Meyer, Jr., as its very able head, has been empowered to the extent of about \$320,000,000 to go to the assistance of the distressed producer through his banks and extend overdue loans. The *banks* for the time being have been saved from disaster. See speech by Mr. Meyer before the Commercial Club of San Francisco, March 29, 1922. The real meaning of this is, while deflation is preached, inflation is practiced.

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What is now advocated, for the sake of national economic freedom, is to take from gold and the title to gold, the disastrous control of value, and award this control to the holders of national area whose power and responsibility can be measured without personal appraisement—first taking care, however, that every citizen may be encouraged and permitted to achieve title to land-area, this happy jointure of sovereignty and responsibility.

To avoid any imputation of prejudice, it is safe to state that as far as the simple-minded holder of 1913 “gold” dollars is concerned, the havoc-value of gold was *at least* that disclosed by the index-numbers to which reference has been made. Two hundred and forty-three such “gold” dollars, expressed in terms of commodities, have dwindled in six years to the equivalent of one hundred similar dollars.²⁵ However, the most distressing aspect of the matter is that we did not slide down a long, smooth chute designed to prevent breakage: we tumbled downstairs and have been bumped and bounced at every step; so that the havoc was not only directly proportionate to the total fall, but was increased in proportion to the number of steps—which is only another way of stating that the frequency of a vibration is more important than its amplitude or path.

When all is said, it seems fairly obvious that we have taken over into democracy a unit of arbitrary power which we apologetically attempt to mitigate and make serviceable as a unit of value.

As a scientific unit of value, our gold dollar beggars description. It not only suffers from an annual decline but, quite unlike any other scientific unit of value, it has spasms.

²⁵ See footnote, page 228.

CHAPTER VI

ORDER

ORDER itself is the mass movement toward freedom, as distinguished from the individual movement; and since the effectiveness of this movement is reflected in national area there is no scientific reason why the cost cannot also be precisely apportioned in terms of the occupancy-value of this area. Order is as dynamic as any other effort toward freedom; and has no set form or limit such as our hasty reformers so pathetically endeavor to crystallize, once for all, into final "law."

In basic terms, order is the growing community consciousness of the importance of freedom, and is no more or less than an intelligent recognition of the limitations of our medium. If initial freedom is assured politically, order—the clearing of the way—because it serves all instead of one, has always been the most advantageous contribution to value.

If order is super-imposed on human effort, the resulting value is arbitrary and has nothing to do with freedom. If, on the other hand, order is non-existent, there is no assurance of either freedom or value. It would seem, therefore, that only under some arrangement, such as democracy, where order is self-imposed, can we expect to find what we call economic value, if we assume that value in any way implies calculable relative precision. If it does not imply precision of some nature, we can only pray forgiveness for the economists who have been talking so long about a *measure* of value.

As already suggested¹ the conventional assertion that rent, wages and interest are the ultimate expenses involved in the production of economic value is well worth consideration. Disregarding once more the deplorable fact that these so-called

¹ See page 60.

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"ultimate" costs² are only vague generalities until some valid unit of measurement is available, there is, nevertheless, a most significant assumption involved in the neglect of such a charge as taxation, *the cost of order*, which is surely more basic than the cost of capital. If corroborative evidence is demanded to support this contention it is only necessary to fall back upon Marshall's factor of "organization,"³ which if expanded to its fullest meaning is obviously order, however specialized.

Curiously enough, order is taken for granted by many of the political-economists; and it is probable that this misleading assumption is another of the "dragged" remnants of autocracy in our faulted economic logic.⁴ In the days of autocracy, order—of a sort—was "given" to us; but in democracy as sovereign citizens we are now compelled to supply the kind of order we prefer, at our own cost; and the assumption of any such "gift" is not only illogical but dangerous. This misconception has probably survived owing to the fact that in democracy we still utilize, as nearly as possible, autocracy's objectionable methods of misappropriating the cost of order from the most diligent, the most involved and the most helpless; and owing to this indirection we continue to assume that order is a basic condition, the cost of which need not be calculated.⁵ It is a misleading political assumption, parallel to the conception, still generally held, of our "divine right" to freedom.⁶ In spite of the extreme sophistication of our modern economists, it appears that some of them still believe in fairies.

If economic value is to have any reality or precision, we must put this delusion on one side. The economist is no more justified in ignoring the basic cost of order than is the hy-

² "Outlines of Economics," Richard T. Ely. 3rd edition, 1918, page 522. The Macmillan Co., New York.

³ "Economics of Industry," Alfred Marshall. 2nd edition, 1881, page 107. Macmillan and Co., London.

⁴ Compare page 262.

⁵ Jevons in his essay "On the Pressure of Taxation" ("The Principles of Economics," page 260, Macmillan and Co., London, 1905) states as follows: "Considerations of this kind seem to show that the determination of the real incidence of taxation passes altogether beyond the powers of our present science and our present resources of statistical information." He states it as an incurable fact: it is actually an indictment of unscientific disorder.

⁶ See page 20.

draulic engineer. Should the latter decide to substitute a concrete aqueduct for the open ditch of his predecessors, he does not, in his subsequent calculations, calmly disregard the annual cost of the more efficient medium. The fact that the inadequate ditch was originally built by slave-labor, and was being utilized when he took charge does not mean that it cost nothing. The concrete aqueduct has to be paid for and maintained. For his gain in total revenue the engineer has to face a perpetual charge which slightly diminishes the profit on each second-foot of water, but largely increases the number of second-feet. The political-economist might follow his simple procedure with advantage instead of balking mentally at the disturbance involved in compelling rent, wages and interest to move up and make room for a Cinderella among the economic factors of democracy—namely taxation, the cost of self-imposed order per unit of time.

If the foregoing position is tenable and if it is fully understood that taxation is a basic cost, it can then be conceded that under democracy the cost of order may be taken for granted provided this cost is impersonally distributed at the base of value instead of, as now, at various arbitrarily-milked points of issue.

It is scientifically impossible to construct a non-discretionary measure of economic value unless the cost of order can be impersonally apportioned, or, in other words, until we have a precise and comprehensive system of taxation; and yet any proposal looking toward this end is very offensive to some of the economists. As a matter of fact, so entirely have they insulated the negative components of value from the positive components, that some of them actually relish the idea that our present medley of taxes can be employed punitively to correct alleged social abuses. Any basic simplification put forward induces epithets that even a hardened engineer would blush to employ. Professor Ely writes as follows: "The factors which condition justice or make for equity in taxation are exceedingly numerous; and the mistake most commonly made by superficial thinkers is to seize upon some one element of justice, build a philosophy upon that alone, and vigorously

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condemn everything that does not harmonize with their petty and bigoted little system.”^{6a}

If the “one element of justice” should be precision, then the application of all scientific method to the measurement of value is, unfortunately, both “petty and bigoted.”

A valid currency is a measure of value: it is contended here that value is freedom: neither freedom nor value has any precision except in a definite zone of self-imposed order. It should follow, therefore, that the sacrifice or cost, which we call taxation, involved in the maintenance of order for the insurance of value, or freedom, must also be brought to focus in any unit designed to measure basic value.

The same conception holds good if we take a very general view of the situation and employ political terms. We can conceive sheer freedom, or anarchy, modified advantageously by the maintenance of self-imposed order, giving us as a net resultant a condition which is nothing more or less than what we call proudly—with excellent reason—democracy. But we are more proud than practical.

If anarchy, modified by self-imposed order, results in measurable freedom or economic value, then just as the foot-pound-second is a focal image of our cruising world with all the saving restraints of the solar system, so our scientific unit of economic value must be a miniature representative of sheer freedom modified similarly by the saving restraints of order that give rise to economic value. If our unit is sufficiently comprehensive, and on this condition only, we can then take order, of the particular type we prefer nationally, for granted.

To contend that there must be an integral relationship between our token of value and our system of taxation may seem very far-fetched to the gold-standardist, and yet if we could put him on the witness-stand under extended cross-examination we should find him belligerently supporting this contention in the end. If, as an expert witness, we permitted him first to expound his theory of *value*, and then excused him for awhile to prepare his bibliography, as though he were closing a chap-

^{6a} “Outlines of Economics,” Richard T. Ely. 3rd Edition, page 696. The Macmillan Co., New York. 1918.

ter, we might, as a second step, give him his head in regard to the gold-standard and his *redeemable tokens of value*. If this were nicely timed so that his subsequent evidence had to go over till the following day we would get all the terminal certainty of another isolated economic chapter. But if we pinned him down the next day to the *mathematical redeemability* of his tokens he would assert that this rested on the power of the government to get back sufficient gold into the Treasury by *taxation* to provide for redemption.

The value of our currency and bonds rests on their *redeemability*: *redeemability* rests on *taxation*; and *taxation* rests on the art of hitting whatever head is most exposed⁷—a pretty sequence!

Looking at the matter from another angle, if our scientific unit of value should be based solely upon a number of square feet of national area determined by population-density with their calculable control of human freedom, we would then have a representative of domination only—a unit of tyranny, not of value. To be fully representative of value our unit must be a lien on measurable area, enriched by measurable population and basically modified by a precise pro-rata burden of responsibility for order, measured in the same terms—the whole of the foregoing argument being predicated upon the assumption that the science of economics is actually concerned with economic value—which means nothing if it lacks basic precision.

Since value is due to the basic relation of effort to resistance, and it is contended that a scientific measure of value must express this pre-focal relationship, there are some very advan-

⁷ Professor Seager at the outset includes taxation as a basic cost, but abandons this (and his hope of precision) when he goes on to say: "Taxes are another irregular charge from which many producers are exempt. Their amount depends upon the arbitrary decision of the taxing power and for this reason and because they do not affect at all many branches of production we may leave them out of account in our treatment of distribution.

"Summarizing the results of the preceding discussion it appears that the items in the expense of production may be reduced to four: (1) Expense for replacement or maintenance of capital goods, (2) interest, (3) wages, (4) rent."—Introduction to "Economics," H. R. Seager. 3rd edition, pages 163 and 164. Henry Holt & Co., New York.

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tageous refinements of order to be considered such as those which Marshall possibly had in mind when he put forward the factor of organization.

Let us group these refinements, springing from the creation of general facilities, under a word which has been a very convenient one for the physicist and which carries its own meaning to the layman,—namely *conductivity*, the assurance of free flow, or, in other words, the diminishment of resistance.

In the calculation of the total value obtainable from any power-plant, conductivity, the essential condition of free flow, is mathematically as important as the original impulse. This consideration is equally applicable to the vast human power-plant which we call the United States. Because of our national desire for individual freedom we are ensured a flow of effort. Our logical task, then, is clearly the diminishment of resistance.⁸

The creation of general facilities such as roads not only benefits the producer in whose district the facilities are provided, but also benefits the consumer at the other side of the continent, and all intermediate consumers. We recognize the basic value of transportation facility—or conductivity—by placing our navigable streams, the Post Office and the control of interstate railroad rates under Federal authority.

The cost, therefore, of all essential highways should logically be borne by Federal taxation, thus deliberately removing an unreasonable share of the burden from the land-owner in thinly populated agricultural districts, and placing it upon the country as a whole in proportion to local population-density. This would have the effect of increasing the economic responsibility of the city land-owner who is now the chief bene-

* The Secretary of Commerce, Mr. Herbert Hoover, in an address delivered before the Commonwealth Club of California on December 1st, 1922, stated as follows: "Indeed, I think it one of the most lamentable things of our civilization that out of the one hundred units of our expenditure but seven of them are devoted to direct building up of the welfare of our people. This includes the public roads, the improvement of rivers and harbors, the promotion service in trade, science and education, the Department of Commerce, the Department of Agriculture, and the Department of the Interior,—services that bring a thousand per cent of return to the American people."—"Transactions of Commonwealth Club," Vol. XVII, page 455.

ficiary of rural effort. Since we propose to recognize fully at the same moment the city land-owner's share in the control of basic value, there may be no protest; but if there should be, let us meet it firmly by pointing out that the city property-owner has very seldom to take in summer boarders to eke out a living, and that we are, in the end, more dependent upon the unfortunate farmer, who, with far greater invested capital than the owner of a couple of flats, has often to break up his family life in summer-time to meet his taxes.

Some recognition of the fundamental fact that "*conductivity*," the facility ensuring the orderly flow of effort, is a general benefit and not a local one, is necessary if taxation is to be in any way scientific. Taking a very simple physical parallel, it is obvious that any resistance to flow interposed between a producing dynamo and a consuming motor is a burden upon both. In many parts of the United States, under our archaic practices, the economic burden of providing the means of free flow is purely local; and areas which would otherwise be of the utmost value to the entire commonwealth are hermetically sealed by economic malpractice.

If the general contention is sound, namely, that economic value is essentially due to the exertion of effort, then it is just as logical to make the cost of creating and maintaining the physical *avenues of exchange* a general one as it is to make the cost of providing the financial *medium of exchange* a general one—as we now do through the agencies of the Treasury Department and the Federal Reserve System.

It is necessary to give this point special consideration, because we may not realize that under the archaic doctrines which now govern taxation, many of our isolated producers, after cutting their way out of economic solitudes, find that in establishing contact with the trader and consumer, they are not justly rewarded for their effort. It is true that they are better off, but all the other members of our commonwealth are better off. It is too painful a survival of an abandoned political era to insist that the gain be shared while the burden falls solely upon the same weary shoulders.

CHAPTER VII

VALUE

IT is impossible to escape the conclusion that there have been, in the past, many hazardous barriers in the way of a frank consideration of economic value. Stating the case very mildly, if the definition of economic value fell properly under the jurisdiction of political economy, then anything in the way of questioning could hardly fail to be impolitic. This, of course, is happily no longer so.

Nevertheless, the dead-line of tradition is still honored to some extent; and it takes a little boldness to step over it, and traverse a territory so long guarded by game-keepers.

We have had inklings in regard to value from the philosophers, who, by dealing in abstract terms, were able to indulge in trespass, and yet, even though these essays in elucidation could be made without political offense, it was one thing to fly a philosophic kite over the areas of economic privilege, and quite another thing to break down the fences.

Whether we look to the Platonic conception of reason guiding will, and of man being the measure of things, or to the Christian conception of impulse enriched by self-restraint, we find that the same fundamental idea of value is expressed,—namely, that it lies in the individual and is due to the striking of a just balance between impulse and order.

Will, impulse, individuality; reason, self-restraint, order;—these are obviously philosophical groupings of the cause and condition of value, if man is, in fact, the measure of things.

These intimations should have provided the economist with the final clue to value, and laid bare a principle which is common to pure kinetics and all other effort toward self-expression, whether we think in terms of the formal arts or that comprehensive art which includes them all—the art of living—the technology of which we call *economics*. All these

arts, from architecture to dancing, are the kinetic outflow of prime impulse, moulded by its medium, and amplified by order which is no more than the artist's recognition and intelligent utilization of his medium.

As far as humankind is concerned, it has all been said, and said finally: "Thou shalt love the Lord *thy* God (not *my* God) with all thy heart, and with all thy soul, and with all thy mind, and with all thy strength." Here is impulse! But this impulse can only come to flower as value under one condition: "Thou shalt love thy neighbor as thyself." This is order and should be the basis of law.

In spite of the very suggestive evasions of the loyal political-economists,—"*cost*," "*utility*," "*importance*," etc.,—they were far too politic to face the revolutionary truth. Value may be much *less* than cost, if man is the measure of things: we need only survey our farms and sweat-shops to realize this. Yet, on the whole it is plain that value is something *more* than cost; for society makes headway against the tide. "*Utility*" and "*importance*" are intimations only. There is no reason, in this country, at any rate, why economic value cannot now be frankly discussed. What is the use; and what is the importance?

Having failed to define *value*, it has always been a little difficult to measure it, though an honest attempt at measurement would have aided definition. Our failure to get at the heart of the matter, even by the less imaginative method of measuring, has been due to our complete disregard of the prime negative factor of value—*the cost of order*. Let us see where the scientific consideration of this factor will lead us.

We are now dealing with value, not with desirability. Desirability, whether æsthetic, social or utilitarian, though often referred to by the sentimentalist as value, is nothing more than a vague reference to demand. Demand, as shown more fully elsewhere,¹ is one of the two reciprocal determinants of value, and is co-important with supply, which is the other; but both demand and supply are wholly without scientific or economic meaning, unless joined by a comprehensive medium, so

¹ See page 151.

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that the resulting flow of effective effort, or value, may be set in motion and measured. At the outset, therefore, we are brought face to face with the need of a definite conception of value; and, also with the necessity of basic precision in regard to its limits, if we are interested in scientific measurement.

A satisfactory definition of economic value, then, must first be put forward; and this can be arrived at, possibly without controversy, by an examination of what we now desire in the way of a "measure of value." Our present economic confusion is due to the fact that we have no such measure; but the protests which arise from all sides against our so-called "gold" dollar offer a pregnant clew to a very sound and very generally-held subconscious notion of economic value.

All of us—Labor or Capital, Producer or Consumer—protest in turn against our present aimless "measure of value" because it does not command at different times equal effort to the effort exerted to obtain it. Very briefly, our "measure of value" does not dominate total value which is made up, not only of goods, but also of services, facilities and order. On the contrary, the cost of goods, the cost of services and the cost of order each at some unexpected crisis dominates our futile measure of value, and entirely upsets our calculations.

Now order, facilities, services and material goods may be safely said to constitute the full product of effort in the medium of matter. Economic value, therefore, may be regarded as *effective effort within a definite area—the relation that potential effort bears to resistance—whether reflected by goods, services, facilities or order.* The effectiveness of such effort is obviously the value of its contribution to our freedom, *so that economic value may be defined, without qualification, as individual freedom.* This definition, owing to changed political conditions, is no longer treasonable, and may be acceptable; but it must be emphasized that if it should be accepted, then such value cannot conceivably be measured in terms of one partial and less-important product of effort, such as goods.

The fatal flaw in our present measure of economic value is its failure to dominate that total value which is made up of order, facilities, services and goods; and this significant flaw

points the way to the construction of a valid measure. It has already been shown that if we can eliminate arbitrary taxation and the equally arbitrary domination of gold, then control of area is control of economic value. Here is our comprehensive dominant factor; and the availability of our goods, the effectiveness of our services, the extent of our inventiveness, facilities and culture, as well as the scope of our order, are all reflected in the occupancy-value of our area. This, if the cost of order is placed scientifically, where it belongs, in proportion to population-density, is true economic rent and is our most vital gauge, for if capitalized in terms of a rational unit it gives us basic national value, or economic unity. The scientific significance of net occupancy-value rests upon the fact that it recognizes fully the domination of our three basic measurable factors, *density, area and time*, in a region of self-imposed order, or national equilibrium.

Having stated, very briefly, the case for contending that economic value is effective effort, or freedom, and that this is not only inversely proportionate to resistance but cannot possibly be measured except in terms of its dominant limits—density, area and time—it may also prove interesting to follow the matter further and attempt to show that full scientific sanction can be claimed for employing these three factors as the basis of a tangible measure of value which will remain relatively constant in any measurable (or national) field of value.

The first necessary consideration is that no measurable value of any nature, which is more or less than zero, can be expressed except in terms of its ultimate limits. Our practical scientific phraseology has been so abbreviated for use that it may be forgivable to expand it again to its original significance.

The length-value of a straight line is an expression of the distance intervening between its limits in terms of the circumference of the earth.²

The area-value of a rectangular plane surface is not simply the product of two length values, as we have been hurriedly taught. It is a similar description of the relationship of two sets of limits.

² See page 40.

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The volume-value of a cube is the relationship between its six boundary planes expressed again in similar terms.

The weight-value of a material cube is the relationship of its mass (volume and density) to the total mass of the earth.

Now as soon as we consider the value of motion or effort we are compelled to recognize a further limit and utilize the factor of time. The value stored up in such a cube by raising it to a given height is therefore the modified relationship between its volume and density and those of the earth, measured by its subsequent fall, in terms of the motion of the earth

upon its axis, since a second is $\frac{1}{86,400}$ ths of the total interval between noon and noon.

Startling as it may seem for a moment to the gold-standardist, we measure all these values by using the whole earth as weight, measure and chronometer. Our foot-pound-second is the rolling world in miniature. There would be no science if we had been afraid to make this rational and comprehensive assumption of unity.

From these simple relationships, all of which are ultimately dependent upon the density and volume of the earth and its rate of rotation, we have built up the essentials of scientific measurement. The same elements are involved in measuring steam-power, electric energy and blood-pressure. Even radioactivity has been measured by Rutherford in identical terms—mass and velocity. Only in dealing with the value of human-energy are the essentials of measurement ignored: we measure it, forsooth, by gold! No value, however simple, can be *measured* except in terms of the ultimate limits which define it: and this applies in geometry, physics and dynamics—in every scientific method of measuring value except the method of the political-economist.

Economic value, therefore, cannot be measured in terms of any single commodity of unknown total quantity, as the gold-standard advocates urge. Neither can economic value be stated in terms of all commodities, as some of the more flexible-minded economists contend, since the quantity of all commodities varies from moment to moment and year to year, and

is bounded by no measurable limits. Such an attempt at measurement is post-mortem. The resultants of a previous period are neatly added up; and if they do not correspond to a very incomplete formula for *value* it is suggested that we "adjust" our unit. It is a proposal calculated to make a scientist turn in his grave.

The phrase "relative value" as used in juxtaposition to "exchange value" and "use value" furnishes another example of the political-economist's craving "to make three bites of a cherry"—and at that he is often one bite short. The orthodox teachers employ these three terms, and fail to emphasize the fact that "use value" is conductivity, while "exchange value" is inducement.

"Relative value," as they employ the term, means nothing whatever. The value of x in terms of y (both x and y being unknown) is obviously $\frac{x}{y}$; and the value of y in terms of x is just as obviously $\frac{y}{x}$. Perfectly true—and perfectly useless!

If, however, the economists would take the fourth and final bite at their cherry and look at the matter *as a whole* they would then be justified in talking about "relative value."

The phrase "use value," as employed by the economists, most closely approximates "total value," since it also includes much that has "exchange value"; but, from Adam Smith on, a distinction has been drawn between "value in use" and "value in exchange."

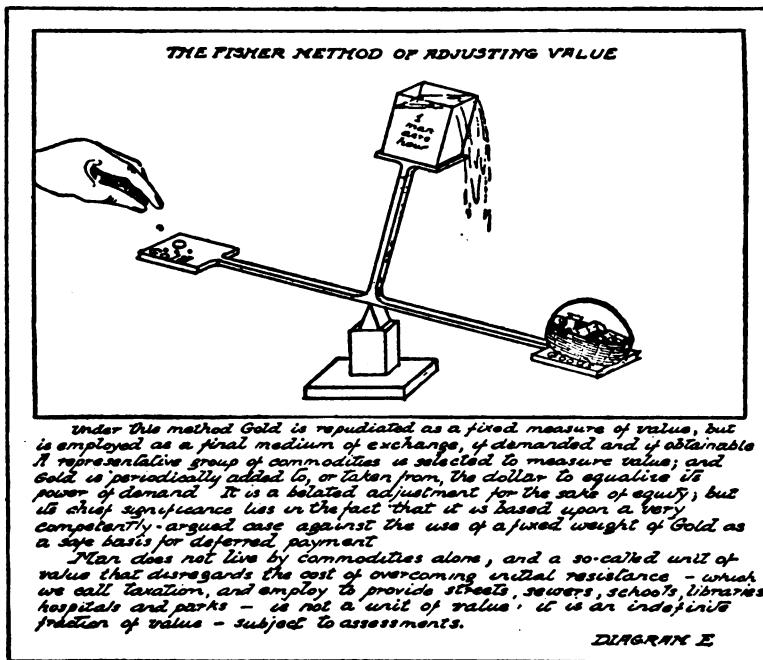
It is difficult to avoid the customary review of the many qualities put forward by the economists:—natural value, intrinsic value, subjective value, normal value, social value, site value, cost value, scarcity value, teleologic value, final utility, marginal utility, subjective utility, ophelimity, utility, importance, desirability, desiredness, appetibility, etc., etc.

"Use value" is selected here (a little arbitrarily) to represent every contributing quality of value which cannot be classified properly as "exchange value." This may be regarded as an irreverent avoidance of detail; but if economic value is ef-

Note, *Diagram E*

Professor Irving Fisher, in attempting to counteract the vagaries of the dollar, sets a varying weight of gold against a fixed quantity of goods. In doing this he is obviously committed to some conception of value which he tries to approximate. If this clew is followed, it becomes apparent that his sympathetic gold dollar is an assortment of essential commodities which will give the owner a definite measure of bodily freedom. But freedom can be measured much more exactly in terms of its limits; and since the ultimate measurable control-factor of freedom or value is land-area, and this factor must appear in every basic calculation involving commodities, the attempt to approximate value by a limited group of commodities is a belated adjustment, far from fundamental.

It is interesting to speculate what would have happened during the period of the war if we had been employing Fisher's unit. With rising prices we would have been given an increasing quantity of gold in our dollar, but rents in many cases rose even faster than commodity prices; the cost of immediate personal services which are not promptly reflected in the wholesale price of goods, such as those of the domestic servant, the plumber and the dentist, also rose through demand; and our medley of taxes on the services of the retailer fell on the consumer, so that while the usual proportion of the dollar set aside for food and clothes would have been adequate, the proportion set aside for rent, services and taxes would have been inadequate and we would have found that we had to part with some of our goods to meet these intervening charges. In spite of Fisher's ingenious attempt to escape the domination of our gold convention, his calculations would be vitiated by erratic and gusty taxation, and we would be brought face to face with a more basic domination—namely the control of land-area, which would have to be dealt with by legislation for the purpose of standardizing rents, driving us back to the necessity of measuring the occupancy-value of area, or population-density. This should be done first instead of last, just as the cost of overcoming basic resistance must be measured first instead of last, if we are to have a scientific and unimpairable unit of value.



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fective effort, there are only two basic factors to be considered, namely *conducement* and *inducement*. “*Use value*” most fitly describes the former, and “*exchange value*” the latter.

If x = exchange value, or inducement; and y = use value, or conductivity; then $x \times y$ = total value.

Only at this stage can we correctly employ the term “relative value”—the relation of a part to a rationally expressed whole which comprehends all factors.

An accountant knows that he cannot interpret a balance sheet if he disregards liabilities: an engineer knows that it is impossible to value a bridge unless he can accurately calculate the distribution of stress and strain; and no electrician, if he is figuring electric value, overlooks his unit of resistance—the ohm. In applied political-economy we leave the farmer to wrestle with the bulk of our economic ohms, and permit the balance, under cover of thoughtless legislation, to be used as a sandbag, which is employed cheerfully by the tax-collector to lay out indiscriminately not only the already exhausted farmer, but also the unwary manufacturer, carrier and banker who in turn take one last spasmodic kick at the poor farmer. “Relative value,” as a term, is used by the economists just as burglars would use it, who weigh silver against plate, or forks against spoons. There are other items in the final reckoning.

What is sometimes called *relative* value may be measured, as many economists assert, by the ratio of exchange of two commodities, but a scientist would have to point out firmly that this is *comparative* value, and does not apply further than the two commodities considered. Another qualification must also be made, namely that the available quantity of each of these commodities should be fully disclosed to make such an exchange even a measure of comparative value; otherwise it is an exercise of wits, like a horse trade—which notoriously has no bearing on measurable economic value.

Dynamic value, that is value arising from effort or motion, can only be measured precisely by the rate of flow between two definite points. It is what the electrician knows as “difference of potential” and is what political-economists appear to realize when they discuss production and consumption, or

supply and demand. Supply and demand are the reciprocal factors of economic value, but they must be adequately connected, as any engineer is aware who has to calculate the hydraulic "value" of a stream of water. Certain measurable potentialities represent his supply: an orderly conductor has to be interposed; and his available fall then represents demand. Value, therefore, cannot be measured by demand alone, as some believers in miracles assume when they propose to base credit ³ (or tentative value) upon consumption. If value could be measured by demand alone, then an engineer would decide upon the capacity of his pump before measuring the capacity of his well: neither can value be measured by supply alone; for, if it could, the engineer would not take the trouble to provide a pump. Furthermore value cannot be measured by a known supply and a known demand: they must obviously be connected by adequate facilities, otherwise the engineer would rest content with his well and his pump and ignore the intermediate pipe. Because of these very elementary considerations, which are as valid in economics as in physics, the net value of effort can only be measured by the reactions due to an available supply and an effective demand, *properly coupled by adequate facilities*, the scope of which determines the difference between potentialities and value. Our present irrational conception of the basic law of supply and demand in the realm of economics is that value may be determined by what men will *give* for a privately-owned and occasionally *unavailable* commodity of *unknown* total quantity—namely gold. A more valid equation—but still a secondary one—might be based upon what men will give for an *available* commodity of *known* total quantity: but the scientific truth underlying such attempts to measure value, though it has been distorted by our arbitrary and materialistic economic dicta, is that value is determined by the effort men will make for freedom, in a region of self-imposed order, or, vice versa, the freedom they will jeopardize for the sake of inducing effort. This is ultimately a question, not of gold or any other commodity, but of effective effort or motion within

³ "Credit Power and Democracy," C. H. Douglas. Cecil Palmer, London, 1921.

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definite orderly limits. The scientist thinks of dynamic value in terms of harnessed motion or flow; but the ritualistic economist, to his own confusion and ours, tries to express such value in terms of one privately controlled commodity of unknown total quantity. He may seem more precise for the moment: *but it is only for the moment.* That has always been his difficulty, in spite of the fact that he lays down such a praiseworthy moral code for his wayward unit.

The economic "law of supply and demand" has been employed to cover a multitude of sins. It is obviously not a law but a travesty of law unless the demand is in orderly contact with the supply. If this is carefully considered it becomes more clearly apparent that taxation, the cost of providing order, is an integral component of value, and must also be an integral component of any scientific measure of value.

In other words, there is no such thing as measurable economic value where we have either autocracy or anarchy. Boundless effort is not measurable: boundless freedom is not measurable; but with the metamorphosis of effort into freedom, in a definite area of self-imposed order, value becomes a measurable reality. There would be no science of any kind if the mass and velocity of the earth were controlled even by as well-meaning and conscientious a body as the Federal Reserve Board. Science depends upon that equilibrium which we call order—not upon discretion!

Specific economic value, then, can only be measured in terms of total basic value if we are really interested in just measurement. Without much fear of serious contradiction, it may, therefore, be stated less diffidently that the conception of any relation between gold and economic value is a pitiful delusion, first, because the total available supply of gold is subject to arbitrary alteration; second, because the demand for gold is not constant, but spasmodic; and, third, because demand and supply are often disconnected. For these reasons the value of its projections into space—our so-called "redeemable" currency—and our credit instruments, "payable in gold" whether of government or citizen—cannot be measured since we know neither the value, the quantity, nor the location of the gold

from which the projection is made. What we do know, to our confusion, is that our elusive supply can disappear. At this juncture, our conservative gold-standardist joins hands with the warm-hearted radical who generously proposes to measure value in terms of consumption or demand, without any consideration of supply.⁴ However groomed, both conservative and radical are equally objectionable to the scientist.

For the sake of the unfortunate layman let us take another bearing on the problem of economic value. We know that all we are accustomed to think of as having *value* can only be made real by individual or joint *effort* and is only worth measuring in terms of its assurance or enhancement of human *freedom*. By effort we turn raw-material into multitudinous agents of freedom, thus giving it value and making much of it available for exchange. Some phases of freedom, or value, are inexchangeable, such as the good health arising from thorough mastication, or the enjoyment of a picture, as we can fortunately realize these for ourselves, without the intervention of any "entrepreneur" or labor-union: another phase of freedom, or value, namely that arising from good government, which we create jointly for joint-account, is also normally inexchangeable, though this is only because we have half-forgotten the conventions of brigands and emperors who realized the value of freedom and appraised it in terms of ransom and indemnity; and being "gold-standardists" and practical internationalists in good standing they demanded bullion as the measure of value, so that they might move away from a naturally unfriendly jurisdiction as quickly as possible.

The only reason these latter values do not appear to be "economic" in the ordinary sense, is that they are not directly exchangeable.

Economic value is logically due, therefore, to effective effort induced by the hope of freedom, within a zone of self-imposed order and, under democracy, can only be vitiated by undemocratic arbitrariness. It is, however, equally important to realize that this value is definitely limited by measurable factors, since these provide the only conceivable means of scientific measure-

⁴ See page 151.

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ment and the only valid inducement of effort which will hold good in area and time.

The conception that economic value is no more or less than measurable freedom applies to the breathing of air, or the drinking of water—two favorite examples of the economist. If we cease the almost automatic effort to convert these into value, there step in to help us, at the invitation of our relatives, a surgeon with a silver tube, or a doctor with a cylinder of oxygen; and when we get the bill we realize acutely that the economic value due to the conversion of air and water into means of freedom is measurable in the dollar of the day—whatever that may chance to be. If we cannot settle our obligations immediately, we sign a promissory note, which reads "For value received I promise to pay, etc." In the last analysis, if we care to learn how little abstract is the contention that economic value and human freedom are identical, the reader may take from his pocket a Federal Reserve Note and contemplate it. All that it is necessary to do, to close the logical circle, is to assume that the promissory note mentioned above was taken in payment by some commercially organized hospital and counted, quite properly, among its assets. These assets are later made the basis of credit by a wholesale drug dealer, and, still later, again made the basis of credit by a firm of drug importers; and last of all, if backed by two signatures and passed through a suitable bank, made the partial basis of the Federal Reserve Note under contemplation. Part of the value certified is bodily freedom, the ability to drink and breathe, for obviously no so-called "tangible" value, such as an ounce of gold, was created by the surgeon or the doctor. They saved one factor of one unit of value—a man—and his promise to pay is a promise to exert effort. The Federal Reserve System validates this anonymous promise among many others and on the strength of it issues vouchers of value to the extent of several hundred dollars. We would be getting on, if we only knew where we were going, and if we were sure we might not have hurriedly to retrace our steps. If anyone should state that the Federal Reserve Note is a promise to pay in gold and does not rep-

resent any value as intangible as the ability to breathe or drink, let us take a "back-sight" from the so-called "gold" note to the reprieved individual. We know that the Federal Reserve System does not own the gold it holds in custody, any more than a pawnbroker owns a watch held as a pledge. If the depositor withdraws his gold to meet an urgent or profitable foreign demand, we can watch the recoil of our newly created facility—which becomes a trap owing to the fact that privately-owned gold—not measurable value—still dominates the half-impressionistic art of this new school of political economy. Under a "free" gold market, through his bank, the owner obtains and exports his gold. The Federal Reserve Bank necessarily demands the liquidation of the complementary credit. The Member Bank demands settlement from the drug importer, the drug importer from the drug dealer, the drug dealer from the hospital, and the hospital from the man who was enabled to inflate his lungs. All this man possesses is his re-established function of breathing; and, being sensitive, he commits suicide. This is our dangerous cycle of inflation and deflation, under the Federal Reserve System: it has some advantages—the man did not die quite as quickly as he might have otherwise.⁵ Our escape from the bondage of tradition is not actual, owing to the fact that the volume of our national currency is still tied, to some extent, to internationally-owned gold subject to withdrawal. We have, at times, a substantially longer rope, but this is susceptible of erratic and sudden shortening because of an unmeasurable factor which the legitimatists themselves boast is uncontrollable—that is, they say proudly, "the gold market is free."

All value, then, is created by effort for the sake of freedom, so that effort is the cause of value; and value has no reality unless convertible into freedom in an area of self-imposed order. For this reason a token of value, if it is to be valid, must be redeemable, as the economists contend—but in *freedom*—not in gold.

$$\text{Value} = \frac{\text{Effort}}{\text{Resistance}} = \text{Freedom}: \text{this as previously sug-}$$

⁵ See footnotes, pages 133, 329-30.

Note, *Diagram F*

If it seems unkind to allude to "vox populi" as a new factor of value, it is only necessary to go back in our memory and reconstruct the chorus of opposition to the Federal Reserve System, and it is also well to look forward.

On June 6, 1922, Smith W. Brookhart was nominated at the Iowa Primaries as Republican Candidate for Senator on a program which has among its planks the following:

"Predominance of the farmer and other producers on the Federal Reserve Board, that they may control the country's credit, which is rightfully theirs."⁶

This possibility is no longer pure apprehension. We now have the record of the will of the majority of our most conservative party in a state dominated by a fair average American voter.

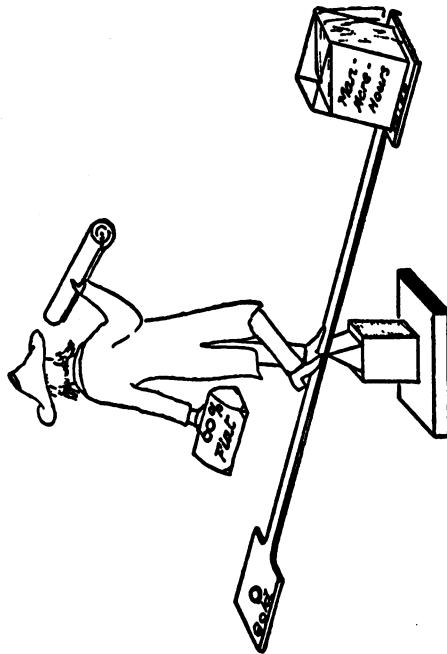
The effect of the intervention of political discretion is discussed by a much more competent authority:—

"Nevertheless, Congress has now passed the bill to modify the complexion of the Board, for the very purpose of minimizing expert judgment and giving greater strength to the popular influence most likely to lead it into error. . . . The objection to the measure is not that it is dangerous to have a farmer on the Board, but that all the arguments for it have been unsound. It has been carried through by one of the spasms of ill-informed opinion of which the creation of the 'bloc' itself is the chief expression."⁷

⁶ *San Francisco Journal*, June 5, 1922.

⁷ Bulletin of the National City Bank of New York, June, 1922, pages 8 and 9.

THE FEDERAL RESERVE SYSTEM



This system recognises that Gold as a medium of exchange. The central figure in the diagram does not represent the Governor of the Federal Reserve System; it would be more accurate if it did. It is an attempt to picture for the first time in a scientific diagram the value of 'real capital', which, whether it is a 60% to 30% gold factor or instruments of value, must be considered even though it cannot be calculated. This intermediate method of measuring value in terms of validated credit as well as gold is a step in our escape from the bondage of tradition, though it may be questioned whether it is a step in any precise direction. Recently, when the president of Bank of America has been followed by a labor member and a Real Estate member, we may assume of their conflicting notions of value, arrive at some indication that no measure of value are valid unless they are measurable.

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gested⁸ is probably the basic economic phrase in a region of self-imposed order such as democracy.

If we are mentally ready to admit that economic value in any given area is freedom, and to admit that freedom is only measurable as modified by self-imposed order within that area, we must admit further that such value can only be measured in terms of its dominating limits by means of a unit expressing the reciprocal relationship of these limits and the scope of our self-elected order. Attainable freedom due to effort and order in the medium of matter, limited by population, area and time, constitutes our ultimate economic supply. Our ultimate demand is the desire for ever ampler freedom, which is also limited by population, area and time. Orderly flow is ensured; and we can immediately measure the value of any interior effort in terms of this flow.

To *need* and fail to obtain is an obvious limitation of freedom. To *desire* and fail to obtain is also a limitation, even if the object of our desire is a jewel or a picture. While the need and desire of such freedom may both appear to be abstractions, nevertheless these are essential components of the conventional *demand* of the economist. If sufficiently urgent they ensure effort.

We have, then, a definite flow which may be expressed in scientific terms; and if this is confined within the conducting system of orderly government in a given area we are justified in regarding this condition as unity, for purposes of measurement. We can assume an unfailing supply, always proportionate to population; and we can count upon an insistent demand also proportionate to population—a demand which we only faintly approximate in our individual dreams of decency, comfort and luxury. To subsequently determine specific values by the reactions arising from interior supply and demand, measured in terms of such an assumption of unity, is good engineering and is also half-digested economic theory, however ignored in practice. In conception it is no more abstract than the “value” stored up in a cubic foot of lead if raised by human effort ten feet from the earth and

⁸ See page 52.

then released. We call it so many foot-pound-seconds. In reality it is the value of *effort* expressed as *freedom* in terms of the total density and volume of the earth and its rate of rotation—the ultimate measurable limits of such value.

The really appalling abstraction—if it is fair to call sheer delusion by this name—is our belief that the value of human effort is in any way related to an unmeasurable store of gold, held in individual and alien ownership.

Abstract as the economic equivalent of dynamic value may appear, we have at least under such a conception, available within democracy, as a definite “measure of value,” as a “medium of exchange,” as a “basis for deferred payment” and as a “store of value”—the redundant moral obligations imposed upon their unit by the economists—a certified lien on area, as enriched by the normal effort of a measurable population, with the cost of order guaranteed by the owner. This is not only far more tangible than our distressing volume of watered stock, of a par value of \$1.00, in a relatively small and unmeasurable accumulation of internationally-owned gold; but scientifically is just as valid an agent of measurement as the head-gate of an irrigation system, where there is an adequate supply of water and a demand in proportion to the population served. If the area, in inches, of the aperture controlled by a head-gate should seem a remote clew to hydraulic value, it may be worth while pointing out that the Venturi meter, installed on the Catskill aqueduct for the New York water supply, is based simply on the local diminishment of a 14-foot pipe to a smaller diameter, and the measurement of the relative pressure and velocity due to this difference in area. As Professor Finch of the Department of Civil Engineering of Columbia University states simply, without any conception that he is taunting the adjoining Department of Economics: “There is no obstruction to the flow, and no moving parts.”⁹

The desire of the economist to measure economic value in terms of one dimension, such as an ounce of gold, is what misleads him. This rudimentary conception of value results

⁹ “Mining Engineers’ Handbook,” edited by Robert Peele. “Elements of Hydraulics,” by J. K. Finch. Sec. 38, page 2018. John Wiley & Sons, Inc., New York, 1918.

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logically in chaos. There is an illuminating example in regard to compound value in the eighteenth edition of "The Civil Engineers' Pocket Book" known popularly as "*Trautwine*," compiled in 1872 by John C. Trautwine, revised by John C. Trautwine, Jr., and by John C. Trautwine, 3rd,—but they were all engineers, not economists.

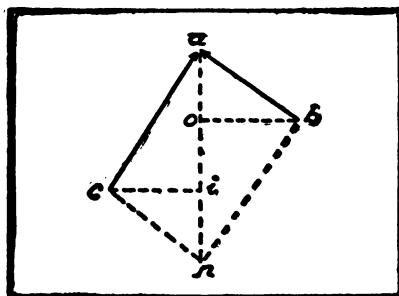


Figure 4

"As a further illustration, regard $a b n c$ as a raft drifting in the direction $c a$ or $n b$. A man on the raft walks with uniform velocity from corner n to corner c while the raft drifts (with a uniform velocity a little greater than that of the man) through the distance $n b$. Therefore, when the man reaches corner c , that corner has moved to the point which, when he started, was occupied by a . The man's resultant motion, relatively to the bed of the river or to a point on shore, has therefore been $n a$. His motion at right angles to $n a$, due to his walking, is $i c$, but that due to the drifting of the raft is $o b$. These two are equal and opposite. Hence his *resultant* motion *at right angles* to $n a$ is nothing; he does not move from the line $n a$. His walking moves him through a distance equal to $n i$, in the direction $n a$; and the drifting through a distance equal to $i a$, and the sum of these two is $n a$."¹⁰

Our simple one-dimension economic measure is too outrageously simple from a scientific point of view. In adopting autocracy's measure of value and preserving primitive sim-

¹⁰ "The Civil Engineer's Pocket Book," John C. Trautwine. Revised by John C. Trautwine, Jr., and John C. Trautwine, 3rd. Page 332, paragraph (h). John Wiley & Sons, New York, 1906.

plicity we have ensured endless confusion. As a matter of fact both the simple-minded citizen and the economist spend most of their time and effort in politely getting out of the way of the drunken lurching of our crowned delusion.

The total value of a business cannot be arrived at by counting either the money in the till or the goods on the shelves. Scope, clientele, insurance, good-will and continuity are not represented; neither are the wages due at the end of the month, or the taxes at the end of the year.

If we can get away from the idea of a commodity unit of value, whether gold or ham and eggs—simple notions which are barriers to all hope of precision—and can think of economic value as the normal effort of a measurable population within a given area, as modified by the scope of order, we must realize that this total bears no calculable relationship to its visible products which would justify us in using any one, or all of them, for that matter, as a measure of value, any more than we could use a fifty horse-power, two ton truck running round a race-track as a measure of the *volume, density and rotation* of the earth. *These latter are a valid gauge of effort for the essential reason that they are not in any way prejudiced by being the product of that effort.*

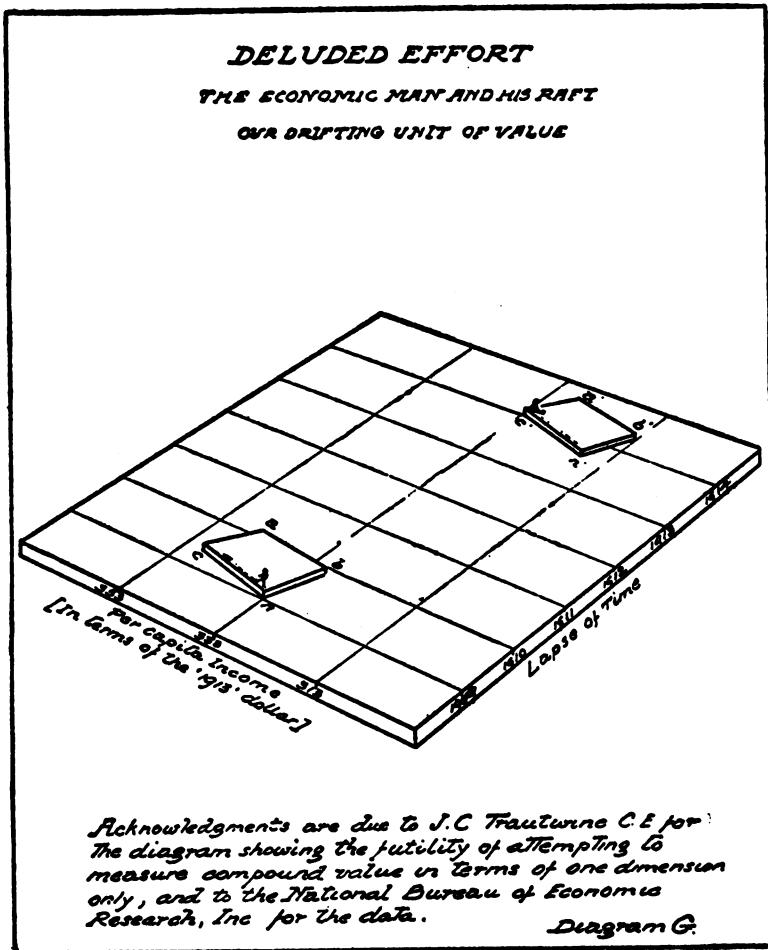
We should realize, further, that the equilibrium we propose to use as a gauge of all specific economic values, is made up, not only of the visible surplus realized, but also of what is purely anticipatory and of what is consumed. If a protest should arise because it is asserted that we must include what is anticipatory or consumed as part of our basic value, it may be pointed out that economic value, like other values involving effort, is something far more than visible yield. It is the product of much “lost work,” of much unmarketable dreaming, and of the many forgings in some vital sequence which waits the final link. This is even more obvious in the realm of physics. We may have one horse-power in a willing horse, but it is not realized if he cannot move the wagon to which he is hitched. If we grease the axles of the wagon this value becomes evident.

Note, *Diagram G*

This is a scientific—not a politico-economic—illustration. All that it is necessary to point out is that the raft is our one-dimension dollar—our drifting storm-tossed datum—always gone when we organize a party of reformers to go to the rescue of our economic man. While the Bureau of Economic Research estimates that between 1909 and 1914 the raft drifted into smoother waters to the extent of \$35.00 per capita in terms of national income, the man busy walking across the raft in the same period got just where he did in Trautwine's example—that is, *nowhere*, since, in terms of purchasing power, his effective income was just what it was when he started, five years earlier, namely \$333 "1913" dollars.¹¹

Trautwine the elder in 1872, so regardless of the ritualists of his day that he probably was not conscious that he might be hurting their feelings, wrote in his preface: "Nearly all the scientific principles which constitute the foundation of civil engineering are susceptible of complete and satisfactory explanation to any person who *really* possesses only so much elementary knowledge of arithmetic and natural philosophy as is *supposed* to be taught to boys of twelve or fourteen in our public schools." His comment is too apropos to be left at this point, without recommending the reader to the enjoyment of Trautwine's footnote, which might be referring to the uninterested victims of the economic ritualists, when it concludes: "They turn up their noses at science, not dreaming that the word means simply *knowing why*. And it must be confessed that they are not altogether without reason; for the savants appear to prepare their books with the express object of preventing purchasers (they have but few *readers*) from knowing why."

¹¹ "Income in the United States," Vol. I, page 144. The National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.



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If such conceptions seem untenable to practical-minded materialists who would measure value by its visible products, support may be claimed from two widely separated authorities, the economist and the physicist.

The National Bureau of Economic Research states as follows:

"When, for example, a city taxes its inhabitants to pay school teachers the people presumably get value received for their money, and there is no more reason why we should deduct school taxes from individual incomes than why we should deduct the fees paid by the rest of the community to physicians."¹²

Trautwine states:

"Thus in pumping water, the work done in overcoming the friction of the pump is said to be lost or prejudicial, while the useful work would be represented by the product (weight of water x height to which it is lifted). The distinction, although artificial, and somewhat arbitrary, is often a very convenient one; but the work is of course not actually 'lost' and still less is it 'prejudicial'; for the water could not be delivered without first overcoming the resistance. A merchant might as well call that portion of his money lost which he expends for clerk-hire, etc."¹³

In the phraseology of science, the measurable value of effort is equal to the resistance overcome; and, since resistance overcome is obviously the first move toward freedom, this is only the impersonal equivalent of the basic economic equation already put forward, namely:

$$\text{Value} = \frac{\text{Effort}}{\text{Resistance}} = \text{Freedom}$$

Now "freedom" is a large quantity—probably far larger than we dream, even though we have done much dreaming. If we have freedom beyond conception it follows that we have a possible flow of economic value beyond conception. As a

¹² "Income in the United States," pages 50-51. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

¹³ "The Civil Engineer's Pocket Book," John C. Trautwine. Page 342. John Wiley & Sons, New York, 1906.

sobering balance, in the guise of hunger, cold, poor roads, and lack of education, we have a fairly formidable daily resistance to overcome, in addition to that which democracy has stupidly imposed or has not taken the trouble to clear away; and it is stimulating to realize that ahead of us we have effort to be exerted which must be at least as great as this resistance. If there is to be any economic millennium it will be earned, *inch by inch*; but with increasing ease as resistance is a diminishable quantity and effort is capable of increase. Each honestly-striving individual, under a rational conception of economic value, should be able to command a handsome minimum wage as he goes—not from the economist's "wage fund" but from something much more available, namely, from the value masked by the resistance to be overcome.

Reckoning upon our unquenchable desire for freedom, we are ensured, with the one provision of order, a flow of effort more constant and more spontaneous, as a whole, than anything we know in physics, not excluding radio-activity or solar-energy, which, after all, are both dying impulses. The rate of flow of the stream of human effort, no matter how varied the individual contributions, seems capable of almost indefinite acceleration. An individual acceleration of effort should mean an individual enhancement of freedom; and the "economic man," conceived by Henry George,¹⁴ "who seeks to gratify his desires by the least exertion," will be found to have desires of the least economic value. Two individuals under an orderly conception of economic value would be a law to themselves, being buyers or sellers of personal effort. (*This provides handsomely for the individualist.*) But if we are to ensure such advantageous exchanges we must provide our individualists with a just measure of value, and if we decide to do this we are first compelled to merge our varied streams of effort in the confines of order, and measure value as a whole. Once value is measurable in ultimate terms *as a whole* it can then be measured in part. To appreciate this we have only to conceive the intermittent chaos in the cylinder of an internal combustion engine and the orderly movement of the piston. The

¹⁴ See page 178.

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multitudinous molecular forces, with all their terrific eddies, have been distributed and carried evenly to the piston-head. To ascertain the amount of a one-millionth part of this value, all we have to do is to imagine a million piston-heads whose areas are one-millionth of the original piston-head—all impelled by the same total force. If formal scientific support is required to confirm this, let us consider two of the basic laws of force, which are phrased as follows:

"A force is completely specified by its magnitude, direction and point of application."

And further,—the law of transmissibility—

"The effect of any force applied to a rigid body at rest is the same no matter where in its own line of action the force is applied."

If, then, we can grasp the possibility of measuring total basic national economic value ($\frac{\text{Effort}}{\text{Resistance}}$) in terms of total national census-area, we should be able to conceive the possibility of devising a *relatively* constant unit expressed in terms of area and population-density by which to measure fractional values; and if, by the elimination of unnecessary friction or resistance, there is a general acceleration of the flow of value, a share of this value will fall to the communist whether he calls himself socialist, single-taxer or bolshevik.¹⁵ It is what he has been after so long, in many cases with mixed motives—but there is no reason—except stubbornly maintained misconception—why he should feel compelled to smother the rest of us to get it. The value of general acceleration would be automatically distributed by means of a scientific unit of economic value based on census-area; and all that our over-eager friends need do is to get out and obtain for themselves just what they want by individual effort instead of legislation. (*This provides, equally handsomely, for the communist.*) As far as the scientist is concerned he can see little to choose between the individualistic gold-standardist and the communistic Russian: they both preach economic disorder with what they think are the most worthy motives. If Shakespeare, Newton,

¹⁵ See page 170.

Rembrandt, Lenine and Jack Johnson were fellow citizens and contemporaries they could do any trading between themselves they pleased without affecting the relative value of our unit—a miniature vessel whose constant basic dimension represents total area and—in this hypothetical case—whose contents represent the combined orderly effort of S + N + R + L + J.J. + . . . X + Y + Z, until the last individual was included.

The whole business of measuring economic value is extremely simple if we can purge our mind of respectable and misleading conventions and boldly face at the outset the necessity of measuring compound value by a comprehensive and fully representative unit.

If we deal with economic value in basic terms, it seems likely that with the accumulation of valid data we shall be able, at last, to frame economic laws which are mathematically related to one another.

Under the so-called law of supply and demand, which is obviously the law of effective effort or motion—and not a vague excuse for any social confusion otherwise unexplainable—we would find that all pure economic phenomena may be stated in common terms and measured by a common unit.

Economic unity, or total basic value, would be the capitalized value of effort and order as reflected in area and, under democracy, would represent all economic value—gold, goods, services, facilities, culture and order.

Taxation would express in terms of economic unity the cost of overcoming resistance, or vice versa, the value of order and conductivity per hour.¹⁶

Money, expressed in terms of square feet of area of average population-density, would be some convenient fraction of national economic unity by which all interior or exterior values could be accurately measured.

Rent would express in terms of economic unity the occupancy-value of tax-paid national area per hour.

¹⁶ It is particularly pleasing to contemplate the probability, under a scientific conception of economic value, that the amount of taxation will be determined by the law of supply and demand—suddenly reversed.

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Wages would express in terms of economic unity the market value of effort per hour.

Hire (as distinguished from rent or wages) would express in terms of economic unity the wasting value of capital goods per hour.

Capital, the stored product of effective effort, being subject to enhancement, duplication and depreciation, would prove to be as entirely remote from money as the contents of a reservoir are from the mass and rotation of the earth. Owing to the wasting nature of capital, in contrast to our insatiable desire of freedom and our unimpairable area, it would survive to occupy the political-economist when he desired to make use of his amazing law of diminishing returns.¹⁷

Interest, the economic phenomenon that has excited most controversy and yet is most simple, is an expression in terms of economic unity of the net value per hour of our freedom.¹⁸

Only by expressing economic phenomena in basic terms can be achieved the correlation of law demanded of a science by the scientist.

It is impossible to put forward the actual simplicities of economic value without a growing fear that they may be over-

¹⁷ It would take too great a space to show the fallacies of this law. John Stuart Mill cites it and then cites further what he calls an antagonistic principle. A principle antagonistic to a law! (Chapter XII, "Principles of Political Economy.") What Mill recognized dimly as an "antagonistic principle" was the significant effect of diminishing resistance. Other economists put forward dirigible balloons and ocean liners, and show proudly that velocity does not increase in direct proportion to power. Why should it? Velocity is only one dimension of dynamic value. If they put their projectiles nose to nose there would be no such velocity to diminish. If they put them in a vacuum there would be no diminishment of velocity. They are overlooking the fact that the medium is moving against the projectile just as fast as the projectile is moving against the medium. If effort does not result in motion it results in heat, which also is value. If human effort does not always result in "roly-poly, gammon and spinach," then it results in education, which is even more valuable. There is no scientific law of diminishing returns, since force is as indestructible as matter. There are two homely truths that the political-economists have blended into a so-called law: first, that you cannot have your cake and eat it; and, second, that you cannot run your head advantageously into a brick wall; but these truths will not blend mathematically.

¹⁸ See pages 300-3.

whelmed by the reverberations of ritual. To gain something more than pity it seems advisable to be rude.

Our present logic has no better claim upon scientific sanction than it would if we regarded economic value as the milk from an ill-fed cow—a three component value consisting of butter-fat, casein and water. What we do now is to allow the urban landowner a share of the whole milk; the international owner of massed gold the right to raid the cream-pans at periodic intervals; while effort, thrift, and self-denial are left to provide the fodder and fight for a definite number of ounces of skim-milk,—of casein and water in varying proportions. This is what now goes on, and the record shows that the politician, or his delegate, who handles the pump, is contributing a larger flow of liquid than the cow!

Just as long as we use gold or goods as a national basis of value we shall have a see-saw:—strike and lock-out, boom and depression, activity and panic, overproduction and under-production, inflation and deflation,—all the symptoms of a one-cylinder engine with no fly-wheel.

Our present certified unit of economic value is an arbitrary and unrepresentative mixture, made up partly of gold which owing to alien demand may be suddenly withdrawn from the country unless prevented by fiat, and partly of credit, strictly limited by fiat as to its nature, and further limited by bureaucratic discretion. We have made up in one package Gresham's "good" and "bad" money;¹⁹ and consequently find ourselves, willy-nilly, driven toward imperialism by the "good" element and toward bureaucracy by the "bad" element. We flout Gresham's law by tying up these two antagonistic elements with red tape.

In dealing with the economic consequences of the use of gold, when we have an awkward surplus, as at present, the administration has to fight off very fervid and specious requests to guarantee private loans of gold to weak alien borrowers by an assurance of the use of the Navy as a collection agent if necessary. In case of the other painful alternative—a shortage of gold—we place an embargo on export. Little

¹⁹ See page 95.

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is said by the gold-standardist about our fiat money at such a juncture; but an agent of the United States Treasury Department stands at the gangway of each outgoing steamer and makes the American citizen turn out his pockets—a naïve recognition of the fact that our token of value is more valuable than the value it is supposed to measure.

In dealing with the credit portion of our conglomerate currency we are plagued by market fluctuations part of the time (and have to throw the War Finance Corporation into the breach²⁰), or we are plagued by the farmer all of the time, who quite properly contends that a liquid asset is not so very liquid when it is frozen.

Because we tie certificated value to one outworn arbitrary, gold, and to the modern arbitrariness of bureaucratic discretion, we live under the never-ending confusion of subsequent legislative correction in the name of reform. What we now resent as communistic or socialistic legislation is the unconscious attempt of the injured to insist on cognisance being taken of total value since we have ignored communism, socialism, or comprehensiveness, whichever we care to call it, in our acknowledgment of effort—our measure of value and medium of exchange. Apart from scientific considerations, it is not even sportsmanlike to hold something out of the pledge of value which we tender for effort. There is no hope in such a method of ensuring the redemption of effort by equal effort; and to forestall revolt we are compelled to make good the deficiencies in our certified value by multitudinous laws. Our unit of partial value fails to represent the remainder of our total stream of value; and we are involved in endless adjustment. This is one side of the trouble: the other is that we allow even our partial value to be further dominated by a pure imperialistic tradition. We agree with autocratic principalities to measure economic value in terms of internationally-owned gold; and our Navy has to stand by with banked fires.

From a scientific point of view a unit of value must be comprehensive in the fullest sense. It must express all before it can measure part. From an economic point of view (if eco-

²⁰ See page 133.

nomics is a science), we are also under this elementary obligation.

Much deadening socialistic legislation becomes unnecessary if communism is given its proper place in our unit of value (exactly as it is in the foot-pound-second, which must express all value before it attempts to measure part).

In considering the measurement of value we cannot escape communism first or last, and it seems far preferable to have it first and have done with it. Our Labor Unions which demand a larger number of units of value as fast as, or faster than, they deteriorate: our much reviled agricultural bloc, smarting under a system of taxation which makes a serf of the farmer: our socialists and single-taxers: our advocates of guilds and soviets: our Federal Reserve System with its bitterly contested and cautious extensions of value: Irving Fisher with his commodity unit which aims bravely, like a small-town emporium, at comprehensiveness—these, first or last, are all subconscious attempts at a necessary rectification of our notion of value.²¹

We now thwart effort and defraud thrift by an irrelevant incompetent and material unit, and waste our time deplored bureaucratic interference.

Comprehensiveness we must have, either by pre-acceptance or costly adjustment.²² If we provide for basic equity at the outset we can thereafter delight ourselves with the profitable flow of untrammelled and highly differentiated individuality

²¹ Compare page 166.

²² Jevons, in his essay, "The Future of Political Economy" ("The Principles of Economics," page 202, Macmillan and Co., London, 1905) quotes Mr. Gladstone as follows: "It appears to me, at least, that perhaps the question of the currency is one in which we are still, I think, in a backward condition; our legislation having been confined in the main to averting great evils rather than to establishing a system which, beside being sound, would be complete and logical. With that exception, perhaps, not much remains in the province of direct legislation."

With that exception! If it were not obviously veiled perception it would be magnificent irony. Suppose we paraphrase very briefly: "The engineer's method of measuring the value of a mass in motion by crushing out the lives of widows and orphans, leaves something to be desired. *With that exception we have done fairly well without the foot-pound-second.*"

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instead of checking it as we do now for the sake of belated equity or the avoidance of revolt.

The tragedy of the whole business is that we think bitterly in terms of misappropriation instead of coldly in terms of maladjustment. The stream of value is ample if we can provide inducement and facilities. All we need is scientific measurement. To hand men in exchange for their effort a certificate of value which represents a partial and unrelated portion of value, and to leave them subject to the further depredations of arbitrary taxation, is to guarantee that maximum effort will not be exerted. We have accepted an economic system which results in retardation instead of flow. The law of diminishing returns is perhaps the most valid "law" the political-economists have put forward in their so-called "science of political economy." What else can we look for but diminishing returns if we employ a unit of diminishing value?

It is, perhaps, only fair to the reader to attempt to reconcentrate this general examination of economic value.

The political-economists have concerned themselves chiefly with supply, disregarding both demand and the medium of contact. They have devoted their attention to material products instead of the effective effort which can be induced by the possible gratification of our growing desire for ampler freedom. Because of their preoccupation they make only cloudy distinctions between *effort*, *facilities* and *value*. The followers of Marx speak of effort as though it were value. The followers of Henry George speak of facilities as though they were value. And yet overlapping, colliding and disputing, as they do, they have covered the truth between them. Some of them have properly described *effort*, or labor, as the "source of value," others have described *facilities* as "use-value," or "site-value," and most of them have defined *value* itself as "exchange-value," or "marginal utility." "Marginal utility" is an interesting recognition of the dividing line between value and facilities. When a man has two gallons of water for sale in a drought, this water commands effective effort and therefore has economic value. When he and others have 10,000 gallons between them, this water commands less

effective effort and therefore has less value per gallon. When there is a river available the water has no economic value. It is a facility only and not an inducement.

What has confused the student of economics so long is the failure to distinguish between the *cause* of value (force), the *condition* of value (friction), and value itself (effective work).

In dynamics we recognize only one value, namely, effectiveness; but we recognize two contributing factors which go to make up this value: one is prime force; the other is resistance or facility, whichever way we care to express it.

The electrician has a different unit to measure each of these qualities. He measures *cause* by volts, *condition* by ohms, and *value* by amperes.

The economist, unfortunately for us, employs the same word for effort, facility and effect, calling them all value, as, for example, when he speaks of the value of effort, the value of an ample municipal water supply, and the value of a bottle of champagne. Curiously enough, the bottle of champagne—a luxury—is the only item on this list that has scientific economic value, since it is the only thing that has the quality of inducing effective effort.

Because our “measure of value” does not express our sentimental appraisement of the three qualities—effort, facility and effectiveness—we become confused.

Labor is effort, but is not value: it may be quite ineffective, as we all know.

An ample community water supply is a facility, but it is not value: it amplifies effort but does not call it forth.

The champagne, however, has economic value, since it is capable of commanding effective effort as its price; and such effort is rendered more effective by the municipal water supply, owing to the fact that it is not diverted by the necessity of having to stop and dig wells.

Long before we have defined economic value and learned to measure it, we have wasted countless time in trying to legislate it into motion. From an engineering point of view

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we have been chiefly engaged in digging up and relaying pipes that lead from a choked spring.

Effort / Resistance, or, conversely, Effort \times Conductivity—this is economic value. Neither effort nor conductivity is value. *Value is the mathematical product of the two, and cannot be measured by a single dimension.*

The construction of a scientific measure of economic value is probably the greatest possible contribution that can be made to the flow of effective effort, since there is created a vital facility, which does much more than add to value: it multiplies it.

When we speak of a measure of value, then, we are not speaking of a measure of *effort*, or a measure of *conductivity*; but we are speaking of a measure of *effectiveness* which is forever momentarily slaking the human demand for ampler freedom—but *forever recreating a supply to validate this demand*. At the same time that effective individual effort is creating new inducements for old, joint effort is adding facility to facility. For this reason our total sum of value does not diminish or stand constant. It is continually expanding and submerging the economists with their “wage-funds” and their “laws of diminishing returns.”

Before passing on to the next point to be discussed, let us consider as briefly as possible the result of the acceptance of such a conception of economic value as is now put forward.

If population increases, and if general co-ordination and invention increase, even as much as they have in the past, the holder of a census-area-order unit in 1950 will still have a certificate representing measurable basic economic value. If it is a dollar it will still be the expression of a definite fraction of the effort of total population, as modified by the cost of order, on total acreage for all time. If the population *doubles*, the holder will have a unit based on *half the area* but it will represent *the same scientific value as the unit he had in 1920*. If co-ordination were doubly effective, he would become more aware of its value. If profitable invention (which is nothing more than the elimination of friction) continued the value

would be still more obvious. It would be worth while to save, and very foolish to waste, such a dollar.

Now this would not mean that the unit had increased in relative *value*: it would be still exactly what it was—let us say one man-acre—an explicit share in basic potentialities. It would mean logically just one thing, namely that friction had been eliminated—the disastrous friction due to ignorance, to disorder, to erratic taxation, to an invalid measure of value and medium of exchange, and to the private or alien ownership of our present measure of value.

On the other hand, if we stick to the gold-standard within our borders, even as modified by the Federal Reserve System, the holders of *title* to gold (not the gold) will continue to exercise intermediate dominion over the producers of real value, gaining shadowy titles to the real product of enterprises for which they furnish the shadowy means—all of which is perfectly proper under our present practices. But at the back of these are the international-minded controllers of massed gold; and every now and then, as confidence (or credit) expands and exceeds the means of measuring it, these exercise the domination of our standard which we sanction; and producer and trader alike are shaken and ruined and abandon their accumulations. We see this every few years and talk wisely of “cycles of depression.” Imagine “cycles of depression” in a turbine or a Diesel engine! We should be aware at once that one of two things had happened: either friction had been introduced or the gauge had broken down.

Under our present standard of value, in 1950 our population and real wealth may have increased in spite of friction. Our apparent wealth will undoubtedly have increased. Our credit will have to increase. It is safe to predict that our legal ratio of gold to credit, as a basis for “redeemable” currency will have decreased, owing to political pressure following the crying need, since our stocks of gold will diminish as Europe gains health and as the production of gold dwindles here because of an officially sanctified price, bearing no relation to other prices which have risen at a rate which averages

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about 18% per annum in the last few years.²³ And whether we call it prosperity or inflation we are bound to have higher prices under our present system. Taxation has to be met which will be followed by higher rents, higher wages and higher costs of production. Looking at the thing logically we can only look forward to so-called inflation or revolt. The dollar will be less than ever gold, and just as worthless a measure of value.

It is a farce of such magnitude that words fail. In 1950 the wage-earner and the thrifty saver of today, instead of a title to the measurable basic value expressed by one man-acre in a region of order will have something that he calls a dollar and is worth three doughnuts and a cup of coffee. We are not fit to be free.

* See page 130.

CHAPTER VIII

SINGLE-TAX AND OTHER EPITHETS

WE are now so stunted mentally by economic ritual that any proposal looking toward basic readjustment results in the flinging of epithets; and "Single-Tax" is a very convenient reproach to hurl at anyone who suggests that land-area is a factor mathematically involved in the measurement of the control of economic value and the corresponding responsibility. While it is contended that, under any rational conception of economic value, taxation should be as compound as the value itself and should be based on the occupancy-value of area, per unit of time, nevertheless it is well worth while making a very careful examination of the proposals of Henry George to ascertain, if possible, why Single-Tax has become so effective an epithet.

Single-Tax

In the field of political economy, as in that of theology, there has been, for a long time past, a danger of the layman becoming confused and wearied by endless expert controversy over irrelevant detail. This arises partly from the fact that some of the most vital words in our language are tinctured with misconceptions, or conceptions which have been repudiated, and other focal points lack final definition; so that any statement, at the best, is inexact and subject to valid criticism, the intensity of which obscures more important basic considerations. Controversy also arises from the fact that while we have dispersed and apportioned political power, the disposition of economic power has largely been a matter of catch-as-catch-can; and we have not apportioned the corresponding responsibility. Under these circumstances it is not strange that such words as "freedom," "responsibility,"

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"value," and "equity" have different meanings to different ears.

In the ominously contracting whirl of events, with our political freemen wheeling distractedly within closing economic barriers, it is appalling to hear the serious citizen say lightly that he knows nothing of economics. It is probable that he is not nearly as ignorant as he thinks; but, for all of us, there is urgently required some simple and fundamental conception in which related details are nested as in a many-seeded fruit—a conception which will permit comprehension but which must also survive examination.

It was undoubtedly with a perception of our desire for simplification, and moved by the aggregate miseries of mankind, that Henry George stepped boldly into the field and endeavored to reduce to final simplicity all our difficulties and all our remedies. The response to his teaching has been so eager that it seems almost ungrateful to question whether the cost, in terms of ultimate advantage, is not too great to pay for sheer simplicity. It would be callous indeed to ignore the earnestness of his effort. "*Progress and Poverty*" should be read, with the utmost sympathy, by every student of the economic situation.

The great service that Henry George rendered was the flouting of smug economic thought; but between his analysis and his synthetic remedy, there is a hopeless chasm. Throughout the analysis he isolates continually as an irreducible element the alleged fact "that men seek to gratify their desires with the least exertion." From this very doubtful assumption he leaves for himself no avenue of escape; and, realizing the hopeful and compassionate heart of the man, one is almost forced to regard it as the gesture of a conjurer—an airy plea to believe that he has nothing in the way of sentimentalism up his sleeve. Placing this law, "that men seek to gratify their desires with the least exertion" first as among "truths which have the highest sanction—axioms which we all recognize," he goes on to characterize the identical phrase as,—"The fundamental principle which is to political economy what the attraction of gravitation is to physics." "The fundamental principle of human action." "The supreme law of the human

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mind." "The foundation of all economic reasoning." "The all-compelling law that is as inseparable from the human mind as attraction is inseparable from matter."¹

With the sternness of vivisection he has resolutely laid bare inertia, and insists that this is the very heart of human nature; and if he fails to convince us that he is indeed a cold-blooded investigator, it is not for lack of assertion. And it is Henry George himself who encourages us to look forward confidently to an equally relentless examination by him of the effects of his "supreme law of the human mind" in the new era which is to be ushered in with his remedy. He states, "The great fact which science shows in all her branches is the universality of law—beyond the reach of his (the Astronomer's) telescope the law still holds good."² Now this alleged, but very questionable, tendency toward inertia, so repeatedly affirmed, is without question the chief menace to the successful working out of his plans, for henceforward inertia is to be richly nourished by taxation; yet not only is it never alluded to but, again with the gesture of a conjurer, the ugly thing he has put so ostentatiously into his bag of tricks comes out transformed into a white rabbit with pink eyes, when he states, "Short-sighted is the philosophy which counts on selfishness as the master motive of human action."³ The desire for gratification without exertion is the most elementary form of selfishness: according to his own assertion, it is the "fundamental principle" of human action; so that the accusation of philosophic shortsightedness in those who regard it as the "master-motive" of human action is a little bewildering. There is also honor among critics, as Henry George would have known if he had really been one of them.

It is difficult to avoid the conclusion that he felt he must utilize the force of his much-emphasized law to storm his way out of our present economic impasse with the largest possible number of followers, not excluding mercenaries, and being

¹ "Progress & Poverty," Henry George. Pages 11, 170, 204, 205, 217. Doubleday Page & Co., New York, 1916.

² *Idem*, page 558.

³ *Idem*, page 460.

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under the necessity of reserving something substantial to meet a desire which seeks gratification without exertion, he deals very arbitrarily with certain forms of capital, against which he has no logical grievance. Such of it as can be separated from land by his single master-stroke he is willing to concede is stored effort, but that other effort which, like a blood-offering, has enhanced the value of land, fails to receive his sanction and is to be placed, together with the land which it has enriched, upon the auction block and sold for the benefit of the state.⁴ In his effort to prove that capital in no case advances wages to labor (Chapter IV), he virtually repudiates all stored effort (or capital) unfortunately so involved in land. Government bonds he also very largely places in this category,⁵ implying that such obligations, entered into for the sake of a community, as in warfare, are spurious tokens of wealth, and should be so regarded. They may not represent material wealth, but may represent value, since value in reality is freedom. No matter who started the quarrel, some conception of freedom is usually what a democracy fights for, so that his questioning of the "value" of such obligations at least conforms to his primary law—"That men seek to gratify their desires with the least exertion."

While there is a persistent response to the doctrines of single-tax and socialism which is well worthy of consideration,⁶ yet there is an equally significant antipathy to any immediate application of these doctrines. These conflicting emotions are due in each case to our healthy reaction from a proposal to erect a formal structure of beautiful proportions upon the untested foundation of altruism. Our fundamental desire of freedom—even of ampler freedom—is not a virtue, it is a blind passion in which the element of blindness, up to the present, has been the distinguishing feature.

⁴ "Progress & Poverty," Henry George. Page 435. Doubleday Page & Co., New York, 1916.

⁵ *Idem*, page 190.

⁶ See page 171.

The ameliorations offered by the socialist and the single-taxer compete magnificently, so that to choose between these two short-cuts to an earthly paradise—if one is disposed to do so—is exceedingly difficult. In both proposals, however, is involved the relinquishment of individual security which, in the main, has been paid for by thrift or extra-effort, and is believed to be actual, to an ideal state which has not yet qualified to our satisfaction as a competent trustee and whose wisdom and beneficence, even if not dubious, are purely hypothetical.

Human nature being what it incurably is, the legalizing of such plans as these under self-government is not impossible of sudden and disconcerting accomplishment if the apparent inducements are sufficient, since most of us are inclined to take the Reformer's Annual Seed Catalogue very seriously. A large proportion of the human race—moulded for generations by carefully nurtured conceptions of kingship—subconsciously believes in the intrinsic wisdom and beneficence of the state, as may be learned from those hopeful pilgrims who journey to Washington to have some very obvious injustice set right, and who return despondently after having confronted that colossal pyramid of pigeonholes. In spite of these experiences, which they are disposed to ascribe to their personal misfortune in finding "nobody home," they still expect from their chosen form of government all the quick decisions and drastic acts of autocracy. They continue to hold to their belief in the wisdom and beneficence of the state much more tenaciously than they believe in the individual or collective wisdom of their neighbors, some of whom they know and tolerate, and others whom they would not suffer in their houses. It should be a sobering reflection that in an emergency we still save ourselves by drawing on the full armory of autocracy, as the aged sinner goes back to his prayers. Democracy, like honesty, is without question the best policy, but unfortunately, it is not always the most immediately profitable practice, as it has been developed under economic misconception.

Alienation of individual wealth for the alleged benefit of all is the most potent rallying cry of the demagogue; but the

barrier to the forward sweep of the more rabid single-taxers is that the immediate victims of the adjustment are apparently still more numerous than the beneficiaries, owing to the ballast of our freeholds, many of which are co-operatively held through savings-banks and insurance companies. It is this ballast which it is proposed to throw overboard.

The most deeply rooted antipathy to single-tax and its modifications is the fear of what would amount to government by appraisers, the tribune again becoming the autocrat. The claim of some of its advocates, that it is a burdenless tax, seems to be more technical than reassuring. If the cost of government is to be borne by a tax on some personally assessed value of land, in terms of dollars, and if there is no fixed value to the dollar and no specific limitation to the scope of government, such a tax gradually increased to meet the inclination of the office-holder and the unemployed "to gratify their desire with the least exertion," while it might not, as in the case of a poll-tax, add a new burden from above, would undoubtedly contribute a factor of pressure from underneath. It makes very little difference to the victim whether he is touched first by the upper or the nether millstone.

Henry George, in paying a double-acting tribute to Herbert Spencer and himself, states as follows:

"Such a plan (Single-tax) instead of being a wild, impracticable vagary, has (with the exception that he suggests compensation to present holders—undoubtedly a careless concession which he upon reflection would reconsider) been endorsed by no less eminent a thinker than Herbert Spencer."⁷

(If this is endorsement it would be equally in order to assert that a check is certified when returned with the superscription "No Funds.")

In a further statement, which is more obviously tintured with the promise of loot, Henry George adds:

"Let the individuals who now hold it, still retain, if they want to, possession of what they are pleased to call *their* land. Let them continue to call it *their* land. Let them buy and sell

⁷ "Progress & Poverty," Henry George. Page 402. Doubleday Page & Co., New York, 1916.

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and bequeath and devise it. We may safely leave them the shell, if we take the kernel.”⁸ (The italics are his.)

Curiously enough, he had possibly an important truth within the confines of that phrase, but it was distorted by his humanitarian desire to feed loaves and fishes to the multitude.

In Herbert Spencer’s judicial statement, involving compensation with an eye to equity; and in the fervid promises of the millennium at less than cost, made by Henry George and his followers, we have respectively the intelligent and ecstatic recognition of what has many of the aspects of an important principle, which has already been put forward:

The community has a vital interest in superficial land-area, or foothold, which is impossible to increase by human effort and is therefore the most unalterable and dominant factor of economic value.

Although it is essential to realize that foothold is not the only measurable factor of value, it is the only pledgeable factor. It is probable, therefore, that this principle will be more and more clearly defined and scrutinized with increase of population (the most feared yet most advantageous contribution to value) and decrease of individual opportunity through state, or state-sanctioned, absorption (the most dangerous and least apparent impairment of value). More than this, the principle is one which should be discussed with the utmost frankness and taken into practical consideration as speedily as possible, no matter how ardent and irrational some of the advocates of single-tax.

Henry George had good seed within his hand, but it was poorly winnowed and, unwittingly, he planted with it other seeds of very dubious origin. Curiously enough it would appear that it is the expected harvest from the less trustworthy seed that has excited most of the interest.

To plan generously for a continuous distribution of value, based on the least possible exertion of effort is quite outside the realm of practicalities. And yet Henry George saw the mischief done by our present system of taxation and set many

⁸ “Progress & Poverty,” Henry George. Page 403. Doubleday Page & Co., New York.

men thinking. Without any conception of scientific value he leaned instinctively toward equity; and this is more than do many of his critics who regard it as irreverent to discuss either value or equity if such discussion in any way questions our present economic goose-step.

Assignats

The reproach of "fiat" has been dealt with^{*} but there can be very little question that, at the proper moment, some venerable high-priest of our present economic system, or some complacent beneficiary, will interpose with the word "assignats" in the contemptuous tone that it is customary to use when land is discussed as a basis of value (for any purpose except that of safely securing a loan of money by a savings-bank). These should first be quite sure of their facts and then be quite sure that they realize that there is any essential difference between the assessed *dollar-value* of land and *census-area-value*. If such a critic is not simply passing on a sneer that is academically fashionable, but stands ready from his own first-hand reading of history to contend that the French Assignats represented an honest attempt to tie money to measurable land-value, then he raises a very pertinent issue. However, the issue raised is not the one he thought it was—it is that of his own ability to interpret data. There are unprejudiced statements in regard to the issue of assignats, even from those whose training compels them to regard any departure from our gold standard tradition with horror. From these may be learned, despite differences of emphasis, the following facts:

After the first issue of 400 million francs in August, 1789, there followed a second issue of 800 million francs in September, 1790, and at this time the French Government, in addition to its first undertaking to accept these notes in payment for the land which was their security, undertook further that they should be legal tender, acceptable by the Government Treasury in payment of dues. It was calculated that behind this total issue of 1.2 billion francs there was an actual value

* See page 108.

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in land of between 2 billion and 2.4 billion francs, though this estimate, like our estimates today, rested on the assumption that their formal money (the franc) had some constant value. In spite of the promises made, *which are just such promises as we depend upon in the relation of gold reserves to our currency*, the French Government betrayed its citizens and, in June, 1791, authorized a third issue of 600 million francs, making a total issue up to this date of 1.8 billion francs, or 50% more than the guaranteed maximum. And yet three years after the initial issue, with this amount of 1.8 billion francs put into circulation, the depreciation in their value was no more than 8%, according to Gide, the French economist.¹⁰

An 8% depreciation arising from a 50% dilution of good faith may seem to be sufficient warning against taking land as a basis of value, but how are we to explain a 48.8% depreciation of value in the dollar in an equal interval between the years 1915 and 1918 in the United States, where our paper and credit are supposed to stand securely on a gold basis?¹¹

In the end, when the French Government had broken all pledges and had issued mortgages or assignats amounting to 45 billion francs against the underlying land-value of 2 billion francs, or 43.8 billion francs in excess of its pledges, chaos naturally ensued. We are now asked to realize the awful havoc caused by using land as a basis of value. As Gide points out, immediately following the comment quoted above, in reviewing the whole episode, "The quantity issued was, however, far in excess of the value of the property," and, "Even if this issue had been of good gold or silver it would have caused a considerable depreciation of the metallic money, since it would have been twenty times greater than what was required."

To condemn measurable land, our only constant, except the sun, as one of the essential bases of value, because of this instance of political bad faith, in reality is an argument against popular government, not against the economic experiment itself. It is very much as though gold should be condemned

¹⁰ "Political Economy," Charles Gide. 3rd edition, page 322. D. C. Heath and Co., Boston.

¹¹ See page 228.

because some king debased it with alloy, or as though strychnine should be condemned as a beneficent aid to the art of medicine because some fool gave his father a couple of ounces on his porridge, or as though democracy should be condemned because of Benedict Arnold, or Christianity because of its apostle Judas Iscariot.

If the above anticipatory comments upon the historical episode of the issue of assignats are not in the best economic form, it is because they are designed to obviate the annoyance of a contemptuous interruption, which through ignorant repetition has come to have some weight. *Apart from any other consideration, to base "dollars" or "francs" upon so-called "land-value," when this value itself is based on "dollars" or "francs" having no precise economic value, is obviously compounding the original error.*

Because of bad-faith the French people at that time became involved in a promise to redeem in land an amount far in excess of the money value of that land: it follows logically, according to our economic ritualists, that land, the only fixed dimension available to us, is an invalid basis of value. If we point out that in the United States today there exist documentary promises to redeem in gold an amount vastly in excess of our available gold, then they should admit that gold is an invalid basis of value. As shown elsewhere,¹² we are just as far from being able to redeem our gold obligations in gold as the French were from being able to redeem their land obligations in land. We may, however, through political power, or through the inducements of continued refunding (which will be reflected in taxation), postpone redemption; but this, again, places our obligations in the irredeemable category.

Irredeemability

Such a type of money as is here proposed, being based upon the measurable value of census-area, after deducting the cost of order, instead of upon gold, may also invite that other conventional reproach of the ritualistic economist, to which reference has just been made, namely, that it is "irredeemable."

¹² See pages 124-5.

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Now if redeemable literally means *redeemable* (as in the case of a baggage-check, or a pawn-broker's pledge), and not *normally redeemable* (as in the case of a sale of "futures" in Chicago), then what is implied by "redeemable" currency is that it has behind it a stored-up portable commodity available for handing over upon demand to the holder of the paper. It is quite as absurd to qualify the word *redeemable* as it would be to qualify the word *chaste*. "Reasonably chaste" and "normally chaste" imply only one thing, that is, lack of chastity. In just the same way "normally redeemable" means "occasionally irredeemable." If "irredeemable" is a valid reproach, the first obvious comment is that those who insist upon integrity should themselves be honest. The protagonists of our present so-called gold money, leaning upon each other instead of upon facts, do not hesitate to cast stones at all types of money but their own, though most of them know that our so-called "gold" money is not redeemable in gold upon demand. This is shown by the record,¹³ and it was demonstrated by bitter experience during the panic of 1893 in the United States, when gold could not be imported quickly enough to avert disaster, and in the panic of 1907, when the importation of gold was only effected in time to revivify our gold-standard myth, but not in time to prevent incalculable damage to the great mass of our citizens.¹⁴

At the back of this insistence upon "*redeemable*" money, there is, quite properly and commendably, the idea of value—but it is unfortunately only an idea—not a guarantee; and, more than this, it is at the best, if technically scrutinized, a very childish and erroneous idea of value, as is shown more fully elsewhere.¹⁵

Our currency is not even redeemable in gold with its painfully varying value as measured by goods and services. The question then naturally arises whether any *token of economic value* can be made redeemable in *value*. If old delusions are escapable the answer is scientifically very simple. By utilizing

¹³ See pages 124-5.

¹⁴ "Principles of Money and Banking," edited by Professor H. G. Moulton. Part 2, pages 171 and 173. University of Chicago Press, 1917.

See also footnote, page 120.

¹⁵ See page 142 *et seq.*

the constant of land-area, a valid currency may be designed so as to be redeemable in the freedom insured by order—the essence of dynamic value. This means that if the supply of currency is limited in quantity, by the certified fact of census-area, and made positive in value by the pre-deduction of the cost of order, we can then insure redeemability since these certificates become indispensable to freedom of motion, just as hydraulic value (potentially less friction) is redeemable in effective flow. Passports, evidences of registration and tax-receipts are not *redeemable in gold*, but they have *value* of a sort because they are redeemable in freedom.

A "normally redeemable" gold note does not represent facts, and for this reason, as well as the subsequent incidence of incalculable taxation, it does not, when most needed, guarantee freedom of action. Certificates of net census-area have only to be made the sole basis of legal tender, in payment of taxes, labor and all other obligations, to be indispensable. The payment of just taxes is the basic insurance of freedom. The bare wages of unskilled labor are also a means of freedom, being an eagerly desired reprieve from the bondage of cold and hunger; while any fuller remuneration (because it insures a choice of the goods or services of others in whatever form they may appear) is always in keen demand, for the fundamental reason that it ensures a still ampler freedom.

Such considerations as these, however novel they may appear from the standpoint of our present conventions, have greater scientific validity than the double delusion that our present currency is a measure of value *because* it is redeemable in gold—an assumption which today has no more justification than a statement that cast-iron has a high food value *because* it is digestible.

Our present currency is a second-mortgage on certain chattels which may be moved out of legal reach by a private or alien owner. It should be a first-mortgage on land-area, which cannot be moved and which can be scientifically appraised by the flow of free population.

A scientific currency to be redeemable in *value* must obviously be fully representative of *all value*, whether the posi-

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tive value of effort or the apparently negative cost of order. Just as far as it fails in these requirements it is spurious. If it represents full net value, however basically, we can then count upon a calculable insistent effective and fully informed demand. With these essentials provided for, it becomes a comprehensive index of value in terms of freedom of action. It is, in effect, an unimpairable franchise to maintain individual sovereignty over normal physical circumstances, and to enrich that sovereignty by the utilization of such goods and services of others as may be earned and preferred, *free from the incalculable diminishments of secondary taxation*. Only under such provisions as these is a token of value redeemable in value. "Irredeemable" is a word which should be very cautiously employed as a missile by the gold-standardist.

CHAPTER IX

THE NEW MENACE

BEFORE formulating any specific modifications of our present system, or accepting any remedy, let us see what new dangers may have to be faced.

The acceptance has been urged of the following points:

That in a region of self-imposed order the measurable components of basic economic value are three, namely, land-area, population and time.

That while time measures the duration of effort, the only measurable container of this effort is land, which has one constant and calculable characteristic, namely, surface-area, since this dimension cannot be impaired either by the state or by any individual.

That effort, in the aggregate, is proportional to population; but, lacking autocratic compulsion, depends severally upon the impulse of the individual, which appears to have two main characteristics, being either grudging or eager.

That grudging effort (which is probably a direct reflex of maladjustment) can only be compelled by one of two methods:

(a) coercion by authority (illogical under self-government); or,

(b) the impersonal coercion of need, which, however, ceases to function the moment that need has been satisfied.

That eager or willing effort, therefore, under democracy, is the sole source of the reserves necessary to safeguard the community and maintain continuity of advantageous operations.

That any inducement of effort, to be effective, should be incapable of debasement.

That remuneration incapable of debasement under democracy can only be a lien on land-area valued in terms of population-density, and guaranteed by the full prepayment of the cost of order, or taxation.¹

That any taxation so arranged that it falls on consumption

¹ A scientific precaution in the determination of value taken by most engineers—and by all savings banks that advance money against land.

is an impairment of the integrity of our token of value, or if it is so arranged that it impedes effort is equivalent to friction, thus checking that vital flow which is admittedly the source of value.

That taxation, or the cost of order, being a pre-requisite of value, must therefore bear a definite ratio to control of value, which can only be determined by the ultimate components of value, namely, land-area, population and time.

These steps indicate that economic value, in an area where there is a condition of self-imposed order, is determined in the end by the area-factor in relation to the constant factor of time and to measurable population. It indicates just as clearly that annual taxation must be measured on the basis of census-area if we are to have any *measurable* value to deal with, and that currency, as a valid inducement or a just basis for deferred payment, must rest on this comprehensive foundation if we are to avoid the penalizing of need and activity and the intervention of vicious friction before the free flow of effort has been made effective.

It appears to be a comprehensive and alluring picture—the fruits of individual effort are to accumulate within the fixed depository of land-area, and the steadily increasing value is to be accurately gauged. It may be an alluring picture, but the preoccupied private citizen is not the only one who is going to be attracted by it.

What have we seen in the past? Arms controlled by a small coterie of adventurers when arms were the accepted basis of value; superstition controlled by magic-man and priest when that had material value; labor controlled by the slave-owner when human effort was a private preserve; land held by the king and his friends when land was finally realized to be the key to easy wealth; money issued by the king, and his present successors in the art of inflation, as it was comprehended by a few that there was this simple way of milking the system of its accumulating value; and the dominating power of massed gold (our modern superstition), controlled by a small international group, not because of wickedness but because we blindly pin our faith to it. With these overlapping

losses controlled, have we come to the end of our troubles? Not unless we are vigilant. The demagogue is poaching on the preserves of his masters even now and is counting on taking the place of them all when democracy has patiently plugged the last old leak. While he clamors for vague and windy enlargements of our token of value, at the same time he proposes shamelessly to employ taxation, the still more disreputable tool of our deposed tyrants, to thwart every possible attempt at exerting individual effort.

Human effort allowed free play till it comes to fruition and the whole handsome increment safely caught where it can be measured: neither baron, king, priest or financier had ever such an opportunity as this to make the mouth water.

As with the swept and garnished house, our last state may well be worse than the first. The old dangers are becoming fairly evident; but the new danger which awaits us is indubitably the bureaucratic demagogue with his conscious lust for self-perpetuating power, and his skilful play upon the desires of a large body of premature citizens with their insatiable appetite for what is termed the unearned increment whenever it appears sufficiently tempting.

It would be wiser to go down fighting as individualists than to surrender the control of this slender fund of surplus effort to the community, in any loot-fed frenzy of so-called reform.

A tax on land with its "unearned" increment of the effort of the past years is tinctured with the lure of loot, and is commended or condemned as the various interests are affected, but a tax on census-area alone has some parallel features. Both give rise to the serious possibility of a type of economic communism which will result in the affluent leadership of those who promise most largely to unwilling labor the distribution through taxation of the fruits of individuality. For a brief period, as in Russia and in parts of Mexico, the community would live upon the slender reserves of extra-effort till these became exhausted and there ensued the primitive reactions of despair. The natural remedy for this danger—the social antitoxin which automatically develops—is that if the least worthy body of citizens demand year by year, through taxa-

tion, an increasing percentage of the yield of extra-effort, private enterprises proving to be failures must one by one be taken over by the state. In classic order ensue sterile rigidity, autocratic control of labor, and chaos—followed by a new cycle of government. But if we wish to exercise our political opportunity and employ remedies less severe than death and resurrection, we have two alternatives: to wait if possible until education has caught up with democracy, or to set ourselves firmly against any change unless the proper functions of a democratic government are defined. If we can limit these to the maintenance of order and the creation of general facilities, it may be safe to move forward; but if, as now, the functions of government are to include anything from the sale of fish to the operation of coal mines, we had better be content to struggle along, harassed by taxation on need and activity, tricked and defrauded by our currency, burdened with the cost of palliatives, such as unemployment insurance, and trampled by the ruthless and profitless competition of government bureaus as in shipping. At least we may have the satisfaction of having given the bureaucrat no sign of surrender.

And yet it is possible to parley with the bureaucrat even though he has come to feel that all he is capable of is a seat in the Custom-House, or a position as inspector of inspectors of tax-returns—occupations in which the hours are light and the pay regular: there is this hope for him—the proper functions of government under democracy—the maintenance of order and the creation of general facilities—include education, sanitation, the improvement of roadways, waterways and harbors, and, on the public domain, until it is divided as quickly as may be for private development, reclamation and forestry. These are more noble tasks than proposing taxes on ice-cream or examining tourists' trunks and widows' bank-books. And they are such ample tasks that they would absorb at fair remuneration all the idle population that our foolish sentimentalists now propose to endow from the public funds, through unemployment insurance. If the government can be compelled to devote itself to the maintenance of order and the creation of common

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facilities we may perhaps get rid of that unnatural inertia upon which the demagogue counts.

If we can get a few proper stipulations approved, there is much to be accomplished in the way of fundamental adjustment; but if we aim for simplification it must be done with an eye to prime human motives, and a care that civilization is not severed from its vital tap-root of what is interchangeably termed self-interest, the hope of security or the desire of personal freedom.

If our civilization is severed from this tap-root, both pruning and harvesting will become very profitless community rites; and yet it is largely the lust of pruning and the dream of harvest that have brought forward our new menace—bureaucracy with its loose-mouthed ministers.

CHAPTER X

SCOPE OF THE DYNAMIC THEORY

If, as already asserted,¹ democracy, self-imposed order, or what scientifically we might call national equilibrium, is a basic condition of measurable economic value (just as the respective masses and rotary velocities of the earth and moon are the basic determinants of mundane and lunar values), it follows logically that since national conceptions of order, even under self-determination, are notoriously different, then various bases of national values are correspondingly different. As a consequence, national units of value, despite edict or fiat, can have no relationship or equivalence, such as the international-minded political-economist thinks of as *normal*.

If, however, some artificial relationship is maintained, resting upon edict or convention, it means only one thing—that we are trying to express the values of autocracy and democracy in the same terms, very much to the disadvantage of democracy.

Under similar celestial conditions we would have to imagine Atlas and his nameless confrères functioning as organ-grinders instead of pedestals, and endeavoring to keep their respective planets in tune for the sake of individual advantage. The various values resulting would be, at the best, a measure of their discretion. Celestial values, however, remain relatively constant because they rest on equilibrium—on self-determination—not on temperament, edict or convention.

Returning again to earth, if by edict, or fiat, a relationship is fixed between various national units of value, in terms of gold, we are forced to admit regretfully the existence of an economic hierarchy—vague, unconstitutional and brought to focus only by the self-interest of the few more powerful as they emerge from the struggling mass of contestants. Without animus, consequently without guilt, and often lacking any

¹ See page 135 *et seq.*

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concerted motive except the perilous mutual interests of the elect, how can these refrain from exercising the international domination to which nationally we submit?

We heap our goods and services on one side of our national scale: they own and control the accepted international weight on the other. They would be fools if they did not shift it; and they are not fools. It is we who are fools to sanction such a method of measuring national value. We watch our loaded pan go up magnificently and come down with a thud. It may be customary; but it is not what we can call scientific.

An international medium of exchange is comprehensible—and this, owing to the costly purging of war, is all we have today in gold—but an international measure of value is a myth.

It was Henry George who stated that scientific law should still hold good beyond the reach of the astronomer's telescope; and while this gives such law a very wide range it would be difficult to disprove his contention, even with a more powerful telescope.

In face of this logical insistence upon the universality of "law," it may appear that the dynamic theory of economic value put forward is almost parochial in scope, since it is frankly coupled with the assertion that there is no possible *application* of scientific method in the international field. The reason for such an assertion is that internationally the free flow and interchange of human effort is wilfully blocked. In the hopelessly-picketted international field, while there is great scope for the diplomatist, who is a shrewd gambler in arbitrariness, there is no place for the economic scientist.

Revolution is shattering, or evolution thawing out, the ancient areas of privilege; and the day may come when all nations can operate under a common code of economic order. But long before that day basic economic law will be found to be applicable within any political area where, through freedom and order, the spontaneous expression of human effort is provided for. It will be discovered, in spite of political idiosyncrasies, such as the prohibition of vodka or claret, that human effort is the prime phase of economic value, that self-imposed order

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is an essential condition and that human freedom is the final phase. In due course, in every intelligently-organized area, steps will be taken to ensure a maximum output of advantageous effort for the sake of a maximum flow of value and a maximum enjoyment of individual freedom. As soon as this logical sequence is realized, men will insist upon the employment of a comprehensive unit of value, so that the confident exchange of services, or economic flow, may be made feasible, and taxation will be devised to provide for order and common facilities without checking effort. The ancient brakes will be stripped from the dynamos, friction will be eliminated from the conductors, and the flow of value will respond. The same laws will then be found to apply in each of these many areas of differing political complexion; and as local prejudice disappears and the last echoes of misleading tradition die out, area after area will unquestionably be linked up to mutual advantage. One after another, nation will be joined to nation by joint interest, and we shall gain the benefits dreamed of now by those who would mix them with the pestle and mortar of politics.

In the meantime, irrespective of international suspicions, it will be found that any national area, freed from the economic friction of arbitrary taxation and possessing a scientific unit of value and medium of exchange, will accelerate its production and be capable of rapidly attaining a position where just debts can be paid or foreign products purchased if permitted politically. And whatever the present currency of these areas, whether roubles, marks, francs, pounds or dollars, just as soon as these aimless tokens are converted into census-area units of definite national value, and put beyond the pressure of circumstances or the manipulation of well-meaning chancellors, production of value will commence anew.

Unwarranted optimism is most dangerous; but if there were known to exist in any power-plant—not excluding the United States—a ratio of friction to free flow as great as our present economic practices make unavoidable, the prognostications of the most cold-blooded scientist would sound optimistic, if we

could disentangle them from his criticism of our past stupidity.^{1*}

To be explicit to the point of personalities, in countries such as Russia and Germany, only the deliberate creation of a scientific unit of value expressing the essential measurable components of basic value—the orderly duration of effort of a measurable population in a measurable area—can prevent final repudiation and economic chaos. This chaos, unfortunately, will probably result in the setting up of a new arbitrary “unit of value” doomed to gradual disintegration. In the past in many countries, including our own, this inevitable disintegration has been so slow that, like the aging of contemporaries, it has passed unnoticed. In our foolish youth the most serious of us sowed our wild oats and the crop is proving disappointing: we saved the dollar of our day which represented the surplus of a week of effort, and we find now that we have to pay it out for an hour’s work of a mechanic. The dollar has run down even faster than its owners. “Things are dearer,” we say, and sadly forego our just claim on freedom. *Things are not dearer in terms of human effort; because of increased co-ordination and increased facilities they are less costly.* The real grievance is that the so-called “gold” dollar is suffering from an imperceptible daily decline due to long years of inbreeding. To have seen the rouble buried, and to stand now at the death-bed of the mark, are economic lessons of which we should take full advantage. In spite of costly transfusions of value at the expense of the producer in periods of “deflation” our own currency is sinking just as surely. We sometimes fail to realize that mathematically, if we start anew every year, a ten per cent depreciation per annum can go on forever.

It is the smoothly-coated and undulating surface of our economic disorder that is misleading. We see the upturned strata of Russia and we are moved with pity or contempt instead of alarm. We are fools if we do not make a cross-

* Mr. Herbert Hoover, an engineer of international standing, who happens fortunately to be Secretary of Commerce, estimates a return of 1,000 per cent for certain expenditures, designed to diminish resistance (see footnote, page 140). This significant estimate is still unchallenged by the economists who think in terms of gold rather than in terms of flow.

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section of our own smoothly-surfaced structure and ascertain what abnormal pressure is the cause of our opulent social domes, and what shifting quicksands are responsible for our macadamized depressions.

Economic law is universal; but with incalculable factors of political friction we dare not link the world's power plants. What we may do, to our advantage, is to look for significant common symptoms, however varied in intensity, and realize in the light of human experience that the most prostrate of nations may be nearest recovery, since for these natural pressure, at terrific cost, has accomplished the cross-section exposure that the ritualistic economic practitioner refuses to countenance.

Rathenau, crushing everything that looked like optimistic illusion, and embracing personally all the woe of his fellow-countrymen, failed, perhaps, to realize that the large economic output and the meager reward he held out as his nation's destiny were not necessarily coupled.² If economic law bears any relation to the laws of dynamics, the reward need not be meager, for it is probable that a tenfold output could be attained by eliminating the friction of arbitrary taxation and impairable currency. The margin upon which Rathenau was calculating was the paltry surplus of a choked system.

With an unimpairable national medium of exchange there can be no question that internal activity would be quickened in any country. In this sense economic law is universal; but with arbitrary barriers interposed between international exchanges of effort, economic law is wilfully repudiated and no appeal to such law can be logically taken.

Free flow, "No economic barriers," or, in idealistic phrasing, "Thou shalt love thy neighbor as thyself." This is still one of the essential conditions, even in the realm of economics, on which hangs all law—to say nothing of prophecy!

² See Chapters V and VI. "The New Society," Walter Rathenau. Translated by Arthur Windham. Harcourt, Brace & Co., New York, 1921.

CHAPTER XI

RECAPITULATION

THIS is largely reiteration for the sake of emphasis; and is an extended index of the foregoing arguments. It is designed to amplify the contention that economics must primarily be a study of basic control, maximum development, and just measurement of human effort, and not, as the ritualists appear to take for granted, an appraisal in arbitrary terms of certain results of that effort no matter how grossly impeded.

Long after the strongholds of theocracy and autocracy have been razed to the ground, it would seem as though the science of economics, less fortunate than her sister-sciences, has been discovered still shackled in an underground dungeon; and that since this partial liberation the political-economists have spent their ingenuity in classifying various lurching and illogical motions which are due to the shackles.

To take up, one by one, the disablements and show that they are not functional, even though they may be predicted with some skill, and to contest, step by step, fine-spun disputation as to the consequences of free motion plus a ball and chain under varying conditions, is to bury the reader in an avalanche of words.

What we must realize is that, as far as democracy is concerned, the study of economics is fundamentally the study of the value of liberated human effort; and we must then determine, first, the basic limits of this value, so that it may be measured; and, second, we must keep a close watch for friction, so that there may be no wasteful political interference.

The first duty of the scientific economist, then, should be an honest attempt to provide a means of measuring the values available within any definite political boundaries which encircle a zone of freedom.

If he erects the whole structure of his science on a foundation which includes both unmeasurable and secondary factors, some vague approximations may of course be arrived at; just as, without any measurement of cross-section and velocity some approximation of the hydraulic value of a stream of water may be arrived at by comparative methods, working on the unsatisfactory basis of the resultant of an unknown flow, modified by equally unknown factors of leakage and friction. However, if all the available value were being gradually consumed by leakage or friction, the unfortunate scientist, calculating on this unscientific basis, would under such conditions in honesty be compelled to resign, owing to a disappearance of his factors, such as is taking place today in Russia where the factors of "Land-value" (measured in terms of rent), "Labor" (measured in terms of output), "Capital" (measured in terms of gold), and "Organization" (measured in terms of efficiency), are melting before the economists' eyes. Almost the only economic factor left with any credentials is Pigou's "Uncertainty-bearing."¹

After having arrived at a means of measurement of the value of liberated human effort, the problems of minimum control, maximum development and just distribution are equally important; but these are futile considerations until we know with what we have to deal.

Now the chief difficulty in negotiating with the orthodox economist is that he does not treat economics as a clean science, but in a spirit of mournful resignation deals with it as a mixture of formal ritual and the art of administration. That he has mentally committed himself to this medley may be seen by his readiness to treat "Nature," "Capital," "Land-value" and special phases of Labor as primary factors. Under these circumstances, the only thing to do is to jerk him a little roughly from his scientific pedestal and talk to him frankly.

In olden times when a discussion became so involved that there was no hope of settlement, it was considered good form to make a gesture of attack to precipitate a clean issue. It is

¹ "The Economics of Welfare," A. C. Pigou, M.A. Page 915. Macmillan & Co., Ltd., London, 1921.

useless to arbitrate baseless ritual and superstition. Such a gesture may be made without any flavor of animosity, and quite suitably, for the challenger perchance may not survive the ensuing conflict, even if he is successful in provoking it. Between the gesture and the conflict the instigator should admit his own weakness, assert his beliefs and with perfect propriety, in the face of possible annihilation, indicate his hopes, since, if he succumb, nobody much cares, and, if he survive, there is always more to be said.

In the first place it is a great pity that the gesture of attack was necessary; let that be taken for granted and the gesture forgiven. It is not in any way the reputation of the ritualist that is at stake, but the honor of economics.

The challenge to the political-economist takes this form: "You have failed to realize that, in a region of self-imposed order such as democracy, value and freedom are identical; and in using privately controlled factors, such as land-value and capital, expressed in terms of gold, to measure value you are ignoring the basic conditions of your problem. Your factors themselves are not measurable: you cannot co-ordinate them nor show any integral relationship between your phenomena. You may be historians, evangelists, philosophers, reformers or incendiaries—but you are not scientists."

Now let us see if this position is not fully justified: first preparing ourselves for defense, and then, if this can be successfully maintained, pressing the attack.

Autocracy, in such a form as made sound economics high-treason, has gone in this country—we abandoned it and pushed forward to a new objective which we call democracy; but we did this without any diagnosis in economic terms of our previous ailments; just as some propose to push forward again toward internationalism without any attempt to consolidate our gains and with all our economic rearguard problems unconsidered. Our political-economists, who should have constituted our intelligence department, have, until now, contented themselves with an elaborate, skilful and highly technical analysis of our confusion, often blaming industrialism or capital or labor. Now none of these is to blame. Our confusion lies

at the door of our economic intelligence department which has failed to realize that a token of value which takes no cognisance of total value, or of taxation, the cost of maintaining value, has no place in democracy.

For the sake of sanity, let us get exact information before we push forward again to new confusion. Without some clear understanding it will be a farce to join any friendly international conference with all the old bludgeons of political-economy under our coats—and it will be suicide to go without them! We attained democracy itself long before we were individually aware of the difficulties of maintenance and the danger of deterioration, as may be seen by our records of crime and of illiteracy; and we have no justification as yet for moving forward. The basic trouble is not that democracy is a faulty institution, but that we have advanced enthusiastically guided by mob motives without any clear perception in economic terms of what we were repudiating. We have gained politically but suffered economically, largely because our apologetic economists, through the regime of autocracy and its transition into democracy, have been busy classifying and analyzing the products of a faulty and congested economic system. Their excuse may well be that they are looking at things as they are—not as they should be. This, though it is their proffered justification, is also their reproach. Things unfortunately are as they are—and, what is more serious, they are possibly worse than they were. If we do not get down to fundamentals there may well be more and more involved symptoms to classify, but all the time the patient will be no better off. Economics has become pure dialectic finesse : it is not science.

Our political-economists in the first place suffered us to enter a badly prepared camping ground; and there has been no scrutiny of the economic diseases we brought with us, or the new diseases arising from unhealthy conditions. As a consequence, we get long disconnected dissertations on poverty, on capital, on the probable future rates of interest, on bimetallism, on forms of currency, on the law of diminishing returns, and on ingenious and unjust taxation, however "practical," based upon misplaced "faculty."

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In some of the States of our Union, we have instituted a system of politico-economic "tax-farming"² by which the amount of state tax to be paid by each farmer or householder is first based upon his *need* for gas, light, water, electric-power, transportation or telephone facilities; to this tax upon his need and activities is added the cost of these necessities plus a state-guaranteed profit which often looks very large to the bankrupt victim of the system. The State has full political power to sanction the extravagance of such public-service corporations, to approve the undue remuneration of their officers and, by preventing competition, to bar the normal reaction against extravagance or coercion. So close is the economic whirlpool to a focus that some of these corporations are now endeavoring to prevent this boasted economic system from crushing them in turn, as it is bound to do some day with a sudden veering of the political wind. Such a detail in the economic progress of democracy shows, at any rate, that while we have moved rapidly, we have, nevertheless, carried with us at least one of autocracy's most valued instruments of economic oppression—the state-sanctioned profit-sharing monopoly; and the new complication that has recently arisen is as old as the original idea. It is not due to consideration for the victim, but is a quarrel over the division of the spoils.

What we have done politically under democracy is to disperse and divide a sovereignty which, at its flower, exercised without question control of two of the basic factors,—population and land-area; and as this sovereignty was forced openly to relinquish authority over population, it held on to the control of area. Owing to the vitiated relationship between economic cause and effect, due to arbitrary taxation, we foolishly allowed irresponsible retention of the most dominant factor: for the control of territory, or land-area, is also control of the time-value of effort. It is the control of land-area that is really sovereignty: most of the so-called "values" of land can be shipped into a political area on a flat-car or a freighter; but this is not so with superficial area or acreage. Let us drive this home:

²This significant phrase is employed by Dr. Rowland Estcourt. See "Conflict of Tax Laws," University of California.

the principles of the science of economics—if it is a science—could be applied on 1,000 acres of barren rock, given available population and time, and barring a political boycott.

Before the effect of the liberation of all three essential economic factors could be measured—so loose has been our thinking—there has arisen much advocacy for a scheme to hand back to the Government the control of men's labor and time, without even an attempt to free land to individual control and utilize all three factors. It may be said that land is free in this and many other countries; but such is not the case; it is not free from fear of the uncertainties of arbitrary taxation: it is not free from the penalizing of attempts to improve it, nor is it free from the fear of confiscation. Owing to the lack of any impersonal scientific basis for taxation, it is subject on one hand to arbitrary favoritism and on the other to arbitrary pressure, exactly as commerce under autocratic control was either unduly aided or unduly hampered. Land is not free, since economically it does not know where it stands.

We centered our attack against the individual autocrat rather than against the means which autocracy employed to interfere with our freedom of motion, and as a consequence we have never looked very closely into the question whether we were actually or economically free, or only potentially or politically free, with this freedom still to be utilized in striving for sane adjustment.

We continue to employ the whole machinery of autocracy for the benefit of favored groups, under the theory of tariff for protection, blind to the fact that it is profits we are protecting; and for the avoidance of just incidence of taxation under the revenue theory, without any realization that a tariff against goods, as Jean-Baptiste Say so clearly shows,³ is a legalized depreciation of the value of certain domestic products, since the value of these is measured by what can be obtained for them. This applies particularly to the products of the farmer and the gold-miner, who must seek an exterior market.

³ "A Treatise on Political Economy," J.-B. Say. 6th edition, 1836, Chapter 17. Translated by C. R. Princep, M.A. Grigg and Ellis, Philadelphia.

A straightforward, but painful, method of dealing politically with this situation might be to pay a bounty on the domestic production of any necessary article, the market for which is dominated by countries where economic coercion is practiced: to terminate this bounty as soon as an attempt is made to export these articles from the United States; and to charge the cost of this deliberate protection through rational taxation directly to those who hold basic control of value. If we deal with it scientifically, we shall probably find that the problem does not exist, for given order and facilities, no one can compete with us, as far as most material products are concerned.

By taxation we have tied up the normal exertion of effort—venture, production and exchange—beyond the most crazy experimenting of autocracy; so that in any large city in the United States we have probably well over a hundred distinct taxes (Federal, State and Municipal) in operation, nearly all imposed on need and activity instead of sovereign power. Throughout the country we depute the tax collector to watch eagerly the erection of homes and the planting of orchards so that we may penalize them, and we install hurdles and barriers in the avenues of effort. All these obstructions are impeding the free functioning of the individual.

As to money, which involves the honor of democracy just as much as ever it involved the honor of the autocrat, we continue the same old dishonorable tricks and shifts without any clear realization that money can only maintain its relative integrity if integrally related to the fundamental factors of value. Whenever a monarch, worthy of his position, had some perception of responsibility as well as power, his money, at its very best, was an empirical measure of the effectiveness of sovereignty—of the monarch's ability to exercise jointly both responsibility and power, and thus maintain the integrity of his tokens of value; and, under democracy, money, our measure of value, should also express that integral relationship of power and responsibility which results in value and lays the foundation for measurement in terms of freedom. Our currency fails because the cost of order is ignored and our factors of value are not comprehensive. This general conception is con-

firmed by our growing realization that, in a well-organized self-governing community, less bullion money is required as good faith grows: we tend to acknowledge as negotiable all jointly-guaranteed tokens of economic value underwritten by the state, looking instinctively to their ultimate vindication and redemption through belated taxation: but this system, owing to lack of scruple and lack of intelligence in high places, and owing to the fact that our tokens of value are still supposed to be redeemable in an internationally controlled commodity, gold, gives rise to disastrous inflation and deflation, followed by intolerable punitive taxation. The measure of total economic value having no pretense at clean definition, the temptation is too great to play with an alleged percentage of an unknown fund. Instruments of credit represent trust: this trust is the very flower of all the idealism of democracy; but it should represent trust in an honest measurement of ultimate limits, not trust in a well-meaning guess which is exposed at regular intervals to brutal disillusionment. The trust in our non-fluctuating, and cleanly-measurable, factor of land-area as affected by the orderly effort of a measurable population is trust enough, and is much better justified than trust in an unscientific hazard as to the value of fluctuating factors measured in terms of gold which does not exist. Since our gold certificates cannot be redeemed when due they are renewed, and we get in consequence a viciously accelerating levy on need and activity. The use of bullion represents our old mistrust of arbitrariness and the very natural fear of repudiation. And yet, long after there is no mathematical possibility of anything but repudiation, indefinite postponement or chaos, so diseased are our minds by tradition and ritual, that we waive the test and submit ourselves to the continuing domination of a delusion.

There is no occasion to flatter ourselves in this matter with foolish self-congratulation that our dollar is the only currency which has maintained its integrity in the long-protracted crisis of the war and its consequences. It has not. As a matter of record the United States Dollar stood below par in Spain and Holland. The only difference between our currency kite with its light tail of bullion, and that of many other countries, with

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their still lighter tails of bullion, is that the plunging has differed in degree. Our money has been able to command little in goods and services : theirs, in most cases, still less. The barometer reading which we can get every morning from the foreign exchange rates is simply an expression of the relative position of the various kites to each other, not to the ground : in more concrete terms, we may say that the rise or fall in the exchange rate between two countries, barring political factors, or pure speculation, represents a comparative rise or fall in the purchasing power of currency in the country of its own origin. Actually it is a naïve expression of the unmitigated opinion which different nationals have of their own currency.

The rate of exchange between the dollar and the pound, in the last analysis, rests on the amount of goods or services we will part with for a dollar compared with the amount of goods or services Great Britain will part with for a pound, if free interchange is permitted.

Apart from the phenomena of taxation and currency, there is one other significant symptom of our deranged economic vision to consider. We have democracy and imperialism jogging along comfortably together at this late date, as in the cases of the United States, France, Australia and New Zealand. This simply means that we are unconsciously utilizing the dubious weapons of autocracy in our search for exclusive markets. Mandate C, the shrivelled green bud of international regeneration which came instead of the rosy flower we anticipated, must disillusionize us if we are honest. Tariffs under these mandates are extended to cover the territory of immature races. Are these for their protection—to encourage sewing-machine factories and optical-instrument works and the fabrication of synthetic dyes in the tropical dependencies? Hardly! They are efforts to extend the scope of an arbitrary token of value, and to pre-empt effective demand. If the extension of these tariffs is not for the benefit of the dependencies, can it be that it is for the benefit of the agriculturalist of the imperial democracy applying it, so that his living conditions may be forced up to the high standard of West Africa and Polynesia?

The extension of economic order by democracy beyond its borders, as trustee and administrator of the welfare of immature peoples, is in no way incompatible with our high ideals if we said to these peoples: "We are here to preserve order and to increase facilities for production and exchange. Your basic economic limitations within your boundaries are identically the same as ours,—land-area, population and time. The charge of administration shall rest on the base of this triangle, namely, land-area valued in terms of population and time." It is the remnants of autocracy, like decayed teeth, which plague the extensions of democratic order. In the case of Ireland it is probably the absolute ignorance of economic science that keeps the struggle at the pitch of delirium amongst a normally warm-hearted, logical and generous people. Memories, surviving from the days when Ireland was an economic preserve, of absentee landlordism and burdensome tariffs, the seductive Sinn Fein economic propaganda, obviously borrowed from Russia; and the cry that all revenue shall now be raised by tariffs or wrung from the industry of the North under the desired Republican régime, while the land of the small owner goes free—it is these things that pile confusion on confusion. The fear of long-past tariffs and exactions has been converted by slow ferment and now become a dream of new tariffs and exactions, so that while the antagonists are the same, the basic economic causes for which they are fighting are reversed. If, instead of argument in terms of assassination and reprisal, it were clearly understood that each square foot of Ireland's sacred soil represented a square foot of economic sovereignty as determined by population, and should be acknowledged by sovereign responsibility in the form of taxes, the South might lose much of its interest in independence and the North much of its apprehension. The same thing is probably true of the Philippines, though the landlords there are a home-grown product, and have not yet found it necessary to absent themselves.⁸⁴ Political independence is agitated for without any conception of the domestic economic coercion already in existence.

⁸⁴ See "The Philippines, Past and Present." Dean C. Worcester. Chapter xxv. Vol. 2. The Macmillan Co., New York, 1914.

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If political independence is won and exercised with economic blindness, the paradoxical result will be less personal liberty. It is specific considerations such as these that emphasize the necessity for incontrovertible and non-political bases for our economic formulæ.

Leaving special cases and looking to generalities, the insuperable difficulty in the way of making a homogeneous whole of two political entities is lack of economic understanding. If unity is imposed by the larger entity, all the consequences of economic confusion are blamed on imperialism, even though coercion is inherent in the smaller entity that cries "oppression." It is not human nature to blame one's self first. There is no talk of oppression or coercion if two unequal power plants are linked for the sake of economy. If there are factors of friction in either, however, there is competent scrutiny demanded.

Proceeding now to the question of a maximum development of human effort, we are brought face to face with the unpleasant problem of politics. Unfortunately for the economist, the politician has been tinkering with the system so long that gauges, barriers, traps and leaks are to be found everywhere, and these politically interposed factors of loss and friction comprise a formidable list. It is here that we are confronted with the problem of taxation—which is properly the cost of maintaining free flow—and of valid currency—one of the most vital economic conditions of free flow. These are not isolated and disconnected administrative and fiscal problems, as the orthodox have led us to believe. If our aim is to ensure a maximum expression of effort, all taxation that presents any check or obstacle to orderly human activity must be eliminated. The bureaucrat will immediately rise to the word activity as a trout to a fly and ask whether it is wise or unwise activity. It does not really matter. The whole stream will flow forward if there is no interference, even though there are eddies in the shallows. The constant interposing of baffles with which reformers concern themselves, will, in the end, only make new shallows which must be perpetually dredged. Now, if funds are needed to provide order where shall we seek them?

We have three measurable factors in our hand, and we must employ the one which can be used to dominate or impede the functioning of the other two by demanding tribute without rendering service. This factor is clearly land-area, and it is on this factor in proportion to its sovereignty that we must assess the charge of validating and enriching that sovereignty. Personal sovereignty is what democracy desires, so that at the bottom of our problem lies the necessity of distinguishing between sovereignty coupled with responsibility, which is proper sovereignty and results in order, or sovereignty divorced from responsibility, which is improper sovereignty and results in tyranny. It is not the motion of freemen to dodge these alternatives by delegating the complete control of this basic factor to the State. We have learned to our cost that the State, like fire, is a good servant and a bad master. State control, or State monopoly, or State competition with the citizen, is also potential tyranny, since the State, as yet, appears to have no comprehension of pro rata economic responsibility. As an interesting side-light on instances such as those in which the Federal Government steps in and assumes control of area for the purpose of conserving oil, forest or water, it is exactly as if an individual had stepped in and alienated such an area. The intruder enjoys locally created facilities which enhance the value of the holding but assumes no scientific pro rata of the local burden of cost. Owing to our dullness of vision, this again crystallizes into economic oppression, however gentle.

If the control of land-area is not scrutinized closely, it may be enjoyed by the State or its subdivisions, or by individuals, and actually be modified tyranny in the guise of freedom. In the end, within fixed political boundaries, if a portion of the whole is more free from contingent responsibility than it should be, then the balance is less free than it should be. Owing to our economic confusion this is the case today in every political division of our democracy.⁴

Our failure in developing human effort to the full rests, then, on our failure to assess responsibility scientifically, a consequent failure to measure value scientifically, and a genius

⁴ See page 317.

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for interposing difficulties. Our lavish and sentimental recourse to alleviations of the annoying symptoms of economic disorder says much for our heart and little for our head. Within our borders we preach (and practice as consistently as may be) the doctrine that all citizens are politically free and equal. Here is our hope of healing. Since political power has been apportioned as fairly as possible, we have no real grievance, as any necessary adjustment is within our effective scope. We have, however, experienced many costly reinflections from the old régime, for the trouble is there was no economic quarantine between autocracy and democracy, and we have made little intelligent effort to locate and isolate dangerous carriers of tyranny who, though loudly democratic in speech, at heart are autocratic and delight in interposing barriers between class and class and between effort and inducement—all in the name of reform.

With need and inducement unimpaired, human effort will very effectually develop itself, each individual striving for the sake of personal freedom, and each intelligent individual striving further for the sake of an ampler freedom, if it can be guaranteed against impairment. We need bother very little about the development of human effort if we leave it wisely alone, and concern ourselves very cautiously with its limits.

And as far as distribution is concerned, a contemplation of the vital stream of human effort, which flows so searchingly in the direction of value, suggests that all we need do is to maintain order and eliminate friction. Freedom of movement and freedom of exchange—these are like a quickening of circulation in an unconscious patient. As far as democracy is concerned we have not yet “come out of the anaesthetic” of the operation of revolution.

Freedom of movement and freedom of exchange—these make it necessary to emphasize one vital consideration involved in a dynamic interpretation of economic value. Democracy was primarily concerned with freedom and open ways: that “freeing of the feet” which was known as “expediency” until some prohibitionist mutilated the word. To interpret economics in terms of dynamics, internal fluidity, or free flow, must be

assumed. With a dynamic conception as a mental background for future adjustment it is likely that we shall commence to look to expedience rather than law—to avenues rather than barriers. Lawmaking, under our present theories, is now so illogical that lawlessness is coming to have all the zest of logic.

To establish any practical connection between politics and economics that can be maintained without danger of the political bandages swelling up and engorging their vital contents is plainly a serious problem. Some kind of automatic trap or check for the demagogue must be devised. It would have been rash to venture a suggestion at any time except at the last moment. It is perhaps not too much to hope that ultimately in the United States every worthy citizen will actually attain individual sovereignty through the ownership of land. With proportionate economic responsibility imposed upon the control of area, and arbitrary domination of effort eliminated by the adequate remuneration of available labor by the state in the exercise of its long-neglected functions, there would, at any rate, never be any fear of land monopoly—it could not be afforded. Universal individual ownership of land would thus be first rendered feasible; and, with that provided, land-ownership might well become a just qualification for participation in government. Here would be a check to the demagogue; and every cry for reform would echo "caveat emptor."

The possibility of such a universal link between individual sovereignty and individual responsibility is the only qualification of a final expression of doubt which is good form in any science save that of economics. The science of economics still has the art of politics linked with it, and the twain are like the unfortunate Siamese brothers. In the last analysis this deplorable union constitutes the cause of most of our confusion. Divergent motives are linked and we are mainly engaged in dusting ourselves off again.

Here at the end of the long argument, after pulling the political-economist's nose to bring him to grips, his almost unassailable position as the orthodox family mentor must be admitted, and the twins left temporarily in his care until we can call in an economic surgeon and separate them.

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We had some safeguards under our constitution but many of these we have lightly destroyed. These were very simple and vital political considerations—not economic.

If it were not for the fact that political economy has gained such a long start over the exact sciences, and so much longer a start over that method of providing for national equilibrium which we call democracy, there would be no need for more than a few lines to state a logical case; but the political-economists have gathered up so large a number of the interesting feathers, which have fallen from so many political dodos, that an attempt to dispute their findings is very much like an abdominal operation upon a feather bed.

The case is this: the desire of individual freedom in the medium of space and matter gives rise to effort, and the effectiveness, or *value*, of this effort is inversely proportional to the resistance of the area in which it is exerted. To contend that this effective effort, or value, can be stated, measured, and justly recompensed in terms of gold is not conservative: it is superstitious. To contend that it can be measured in terms of commodities is not scientific: it is a surrender to eternal trial and error. To contend that it can be measured in terms of energy-hours is not radical: it is aimless. Such value cannot be scientifically determined until every factor of value, positive and negative, has been taken into the calculation, and can then only be *measured* in terms of the area in which it operates, as modified by population-density and time. In the name of science, how else?

We took over from autocracy two deplorable arbitrarinesses, both of which vitiate any scientific attempt to measure value. One was predatory taxation, to provide the cost of general facilities which give reality to value. The other was gold, an arbitrary means of measuring value. To attempt to improve the means of measuring value, without paying any attention to taxation, an obvious means of impairing both the value and the measure, is far less scientific than it would be to install a recording timing-device on a high-speed dynamo and then permit a well-meaning idiot to amuse himself by playing with the brake.

The factor of order, whether expressed positively as conductivity, or negatively as the cost of overcoming resistance, is much more valid a component of the economic value we pretend to measure than the precise and utterly irrelevant price of an ounce of gold. And the political-economist should be able to discuss this very calmly; for we are confronted with a condition—not a theory.

Part II

THE ESSENTIALS OF A REMEDY

PART TWO

CHAPTER I

THE ESSENTIALS OF A REMEDY

SINCE the theory embodied in the foregoing pages was first put forward publicly in tentative form in March, 1920,¹ and since the foregoing essays were completed, certain friendly and very helpful critics have pointed out that the attempt to substitute realism for tradition in the so-called science of economics was quite bewildering, and that the general conception might be more easily comprehended if the defects of our present system were stated explicitly, and, to deal with these defects, a definite program were laid down, based upon the theory.

This is perhaps necessary for the sake of demonstrating that the generalities already put forward are susceptible of practical application. The argument may well have been clouded by the necessity of having to distinguish at every step between the proposed basis of measurement and the dynamic value which it is designed to measure.

The attempt to measure any type of value arising from effort or motion involves us in what appears to be abstract thinking. The first rudimentary responses to the manifestations of energy—exemplified by Canute and his hastily abandoned throne, Watt with his kettle-cover, or Franklin with his kite—indicate that it is normal to endeavor to appraise energy by some visible consequence, as the political-economists do today. But the scientist, under the obligation of measuring, disregards for the moment both the concrete product and the concrete obstacle. He takes into consideration the ultimate *measurable* components of the field in which the energy is

¹ Transactions of The Commonwealth Club of California. San Francisco, Calif., March, 1920. Also *Engineering and Mining Journal*, New York, March 6th, 1920.

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exerted, and making use of these he devises a constant unit of value, or least common denominator, mathematically related to these limits.² He then works back toward a precise characterization of any obstacles, with a view to their removal, and later to logical prediction of advantageous products.

Bondage is as concrete as anything there is, and has been described at great length with much gusto and explicit detail. Freedom would be a pure abstraction if it were not for its measurable limits which are not nearly as remote as they may appear, since they are the normal effort of population toward complete emancipation, within a definite political area, and the duration of that normal effort, which is measured by time.

If we can brush away old misconceptions, and realize that in using the term *value*, as we do, we are now committed to a concrete absurdity; and if we realize further that the formal tokens of value, which we call money, have always, even in the days of Cæsar, been generally honored tokens of our freedom to move and choose, however vitiated at times by the various arbitrary mandates which we have struggled to eliminate, then we should be able to comprehend that in an area of self-imposed order freedom and economic value are one and the same thing.

Guided by this conception of the necessity of determining total economic value, or human freedom, in terms of itsulti-

²In the unfinished fragment of his "Principles of Economics" (page 169) Jevons quotes Sir W. Petty, who, in 1662, came very near to a conception of this. At the outset he is so close to the engineer's conception of measurement, and at the conclusion is so far from it, that he is worth quoting in full: "All things ought to be valued by two natural denominations, which is land and labour; that is, we ought to say, a ship or garment is worth such a measure of land with such another measure of labor; forasmuch as both ships and garments were the creations of lands and men's labors thereupon" (so far this is a well-stated recognition of two dimensions of value). "This being true, we should be glad to find out a natural Par between Land and Labour, so as we might express the value of either of them alone as well or better than by both, and reduce one into the other as easily and certainly as we reduce pence into pounds." Here again is the old yearning for an impossible one-dimension value that has stultified economics. If an engineer were to say that pressure and area were the denominators of static value and that we should endeavor to find out a natural parity between pounds and square inches we would regard it as pathetic. A least common denominator is never quite as simple as the schoolboy thinks it should be.

mate measurable limits, we must, before we can make any sane adjustments or valid calculations, construct a unit of value in the constitution of which cognisance is taken of these limits, since this unit has to express the compound value arising from their relationship. The measurable, physical limits are area and time: the dynamic limit is the sum-total of human beings in normal relationship within the definite area under consideration,—whether men, women or children,—since their need of immediate physical freedom from hunger and cold, and their desire of ever-ample freedom, gives rise to never-ending motion.

As already stated, the conception and measurement of *value* are the beginning and the end of the economic problem. The primary political task, popularly supposed to have been accomplished by democracy, is the liberation of human effort. The task for the economist is to show where democracy has failed: to put forward a rational conception of the economic value arising from liberated human effort in a region of order; and to put forward also a scientific means of measuring this value.

In any system designed to develop dynamic value there are always three vital points to be considered; and these are so definitely interdependent that no alteration can be made in one without affecting the resulting value.

These are (a) Supply,
 (b) Demand, } determining potential flow.
 (c) The connecting medium (determining effective flow).

To expand to the utmost both supply and demand, if they are well-balanced, is obviously advantageous: to improve the connecting medium—that is to facilitate flow, or diminish resistance—is still more advantageous.

Leaving on one side for the present the fact that available supply and effective demand are now conspicuously ill-balanced, as we can see from our periodic booms and slumps, the first duty of the economist is the just measurement of value, and the provision of a trustworthy medium of exchange, since this

is the simplest possible way of disclosing the fact that such a lack of balance exists.

It has been shown very fully that a scientific unit of dynamic value must represent total value, and that total value is the ratio between total effort and total resistance.

I⁺ is at this point that the scientist and the ritualist part company. A so-called unit of value which takes no cognisance of the negative components of economic value, is scientifically as ludicrous as a foot-pound-second would be if it had been deliberately arranged that Saturn need only come to heel in the solar system at the periodic whistle of some erratic tax-collector.

A demonstration that the structure of our present unit of value is unscientific should be spur enough to the economist. But we are so used to the fact that it is unscientific and so hardened to the sight of economic distress that "unscientific" by now has no sting. Our unit of value is not only unscientific: being clearly subject to retroactive debasement, it is spurious and normally irredeemable, if we think in terms of value instead of gold.

Under the one rationalizing condition of self-imposed order, or national equilibrium, the basic economic calculations are almost unbelievably simple. Supply and demand turn out to be identical, being nothing more than the two facial aspects of the same cross-section of flow. On any given section the *quality* of economic value in relation to the *quality* of total value may be expressed *quantitatively* in terms of total area and population-density.

Within such a total area, in the medium of matter, or physical equilibrium, we have a so-called *demand-factor*, made up of a long series of differentials of individual desire for sustenance, comfort, security, culture, beauty and joy—in short, for individual freedom—and this series gives rise to a so-called *supply-factor*, determined by a complementary series of differentials expressing individual effort. In the same area, and in the same medium, we have also another form of *demand*—an equally long series of differentials expressing the desire and conception of *order*, and, induced by this, a complementary

series of efforts toward order which make up the *supply* of order.

The sobering thought, in the last analysis, is that we are dealing with desires and efforts, which are almost impossible to quicken and very easy to thwart.

In discussing detail we are promptly involved in idiosyncrasies of desire and effort beyond enumeration; but our two sets of series, *as a whole*, may be stated in terms of their *means*, with the saving of much mental wear and tear, since these two conceptions of the supply and demand of freedom (*flow*), and the supply and demand of order (*conductivity*), may be expressed by the common dimensions of population-density, area and time.

We may leave the scrupulous mathematical economist to parade his series of desires, efforts, risks and intelligences, like a drill-sergeant, who makes ready for annual maneuvers with a desire that the reviewer's eye shall not be offended by the knowledge that Alpha, Lambda and Omega are in reality "buddies"—the economic equivalents of Mulvaney, Ortheris and Learoyd—who as soon as the wearisome parade is over will turn with zest to their own absorbing economic activities.

But we have now got them all in the parade-ground. What we desire is not a discussion of their idiosyncrasies but a rational conception of the "value in action" of this ill-assorted squad in a given area. We bid them charge across the area allotted to them, in open order, and scale the many obstructions which the General Staff, with its early 19th Century abhorrence of undecorated spaces, has been planting for so long a period in the name of reform. We find that the *value* of this squad is directly proportional to its joint enthusiasm and inversely proportional to the resistance offered by the box-hedges and other aimless decorations.

As economists we contemplate this phenomenon and interpret it in terms of "diminishing returns" and "marginal utility." As mathematicians we use our stop-watches and make a formal report in terms of average individual effectiveness. But as engineers we would promptly detail half the squad to clear away the obstructions, and would not be sur-

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prised in the least to find that the effective value of our squad could be increased many times.

If a more conventional economic picture is required, let us make use of Crusoe's island. At the outset we must firmly kill off Friday by tuberculosis as he is a slave and very much of a complication in the logic of the economics of democracy.

On this island, thus thoroughly rationalized by liberty, let us wreck in rapid succession the Swiss Family Robinson with its inconceivable fund of knowledge, a ship-load of tourists going round the world in search of local color, the directors of the National Bureau of Economic Research, Inc., still fired by their statistical yearnings, and a detachment of the Coast and Geodetic Survey with their invaluable training in precision.

If we thoroughly mix these ingredients and let them simmer for a couple of generations we should logically obtain an enlarged economic unit well worth consideration.

Let us assume that this unit consists of 100 acres with a population of 200 souls. The potential economic value of this area per hour can now be expressed as follows:

Total gross value (100×200) = 20,000 man-acre-hours.

The total effective value would obviously be modified by the basic resistance of the area—climate and infertility of soil—and also the diminishable resistance—lack of roads, lack of schools, and lack of sanitation.

Now let us assume that these difficulties are so great that the work of only ten of these men yields a net margin. In this case the total net economic value per hour is 100 acres \times 10 men or 1,000 man-acre-hours.

If the resistance is cut in half by road-building, schools and plumbing, then the work of 105 men becomes effective and our effective value per hour becomes 100 acres \times 105 men, or 10,500 man-acre-hours.

If the resistance is again cut in half the work of 152.5 men becomes effective and our economic value per hour is 152.5 men \times 100 acres, or 15,250 man-acre-hours.

The resistance in this simple example has been reduced in the ratio of 4 to 1: the effective value has been increased in

the ratio of 1 to 15.25. This is the explanation of what we call civilization, and arises from the relationship of value to effort and resistance.

Now this community, being entirely free of the habit of raising an exportable surplus as imperial tribute, and equally free of the gold-standard tradition, would be able to give rational consideration to the construction of a scientific unit of value. The descendants of the statisticians would probably have satisfied their longing for price curves and business cycles by means of cowrie shells: but the Coast and Geodetic Survey descendants, congenitally hungry for equations that close, and aware of the relation between effort and resistance, would be driven back to their least common denominators,—area, density and time,—in terms of which the cost of overcoming resistance, and the measure of value, can both be impersonally expressed.

The difference between the engineer and the economist is this: the engineer knows that he can express total potential effort and the total sum of resistance in common measurable terms, even if he is not sure of total value; while the economist, with his water-tight conceptions of several different kinds of value, makes the fatal error of ignoring altogether the cost of overcoming resistance. Here lies all the difference between relative precision and hopeless confusion.

We have accepted gold in the past as a measure of value only because there was no conception of a definite zone of freedom; and the best that could be said of economic value was that it was the uncertain mitigation of our servitude to an arbitrary of some kind or other.

We face, therefore, under democracy, if it is concerned with unimpairable freedom, the imperative necessity of expressing total basic national value in terms of its ultimate limits; and, having accomplished this, of expressing all fractional values by a comprehensive unit which is integrally related to the whole, instead of being a definite number of ounces of some unmeasurable and uncontrollable part of the whole.

For these reasons no remedy, however generous in conception, can rid us of our confusion, until valid measurement, the

one essential condition of economic flow and counterflow, has been provided for; and as this calls for a unit of value which shall be both a means of exchange and a safe basis for deferred payment, or, more simply, a unit of value that is a unit of value both in area and time, we are compelled to consider the elements of measurement before planning any of those expensive ameliorations, at the cost of some one else, which we call reform. It is not a question whether we should do this, or whether we should do that, as a matter of reform or "social justice." There can be nothing but momentary and unsatisfactory adjustments until we learn to measure. If just measurement is impossible, then we might as well go on as we are going—snatching what we may as opportunity offers, and endowing social surveys if we chance to prosper, or contributing to inevitable relief funds to care for those who snatched less skilfully—or less fortunately.

It is in the consideration of the principles of measurement that the engineer may be useful, since he has been trained to ignore respectable delusions and—for the moment, at any rate—to lay aside sympathy, antipathy and tradition. No matter how sultry with convention the atmosphere, or charged with prejudice, he is accustomed to playing with some patience the part of a lightning conductor; and, in disputes based upon pure opinion,—which arise also outside the field of economics,—is equally used to being hit, first from one side and then from the other.

In the light of wider knowledge or more special experience, his concrete recommendations may often be amended to advantage; but since he is under the obligation of openly correlating the factors—not always his own—which he has been able to assemble, his serious critics are under the equal obligation of coming forward with more precise factors or more convincing correlation. They cannot, at any rate, insert "Nature" on one side only of an equation in value and put forward an answer in terms of gold—and get away with it. This new-born diffidence in itself ensures a definite gain as a result of the storm—no matter what happens to the lightning conductor.

There is one more general consideration to be put forward before the dust commences to fly: if a valid unit of economic measurement can be provided, it may prove possible in the future, with the growing accumulation of stationary data, to construct some valuable formulæ covering the growing effectiveness of effort as well as its *duration*; for it is probable that the adequate creation of facilities,—whether owned jointly or individually,—the elimination of friction and the long-delayed disclosing of inducement, will justify some very interesting studies in acceleration.

Saving the last word for the bystander: does it not seem significant that since the advent of democracy much of our policy has been based upon the necessity of making the best of a deplorably retarded flow of effort?

CHAPTER II

THE NECESSITY OF MEASUREMENT

LET us discuss in more detail the symptoms, which have already been indicated in Part I. These appear to establish definitely the fact that we are employing an unscientific and entirely unreliable unit of measurement. Among the more significant of these are the following:

(a) *Lack of certainty as to the true value of savings and of the wisdom of attempting to save.* We all know that the demand power of the so-called "gold" dollar has diminished from a rated effectiveness of 100 per cent in 1913 to a rated effectiveness of about 41 per cent in 1920, in terms of certain essential goods.¹

Now if this had been due to an arbitrary issue of "fiat" money instead of the conversion of credit into so-called gold obligations, the political party in power during such a period would be blamed without mercy by the defenders of our present system; but because it was due to our ignorant worship of the gold-standard and to consequences arising from an attempt to procure low-interest loans for the Government from both high and lowly, in the name of patriotism,² it was regarded complacently by the orthodox, who could look forward, later on, to picking up these jointly-endorsed promises to pay in gold at very tempting discount.

The general result of this policy, which was more foolish

¹This statement is based upon the fact that the index number of wholesale prices, if taken at 100 in 1913 must be shown as 243 in 1920, according to the statement of the *United States Bureau of Labor Statistics*. To look at this from another angle, the savings made in 1913 would in 1920 be worth less than half their initial value, and the citizen who denied his wants in the name of thrift might well regard himself as something of a simpleton. "Wholesale Prices 1890 to 1919," page 15. U. S. Department of Labor, Bureau of Labor Statistics. Washington, D. C., 1921.

Compare also footnote, page 320.

²"The immense credit resources of the federal reserve system were thus availed of by the Treasury during this period to make and maintain an artificial money market."

"Federal Reserve Policy," A. C. Miller. Federal Reserve Board, Washington, D. C., Vol. XI, No. 2, June, 1921. *American Economic Review*.

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than vicious, we are now encouraged to regard as one of those mysterious "acts of God" as a consequence of which good ships with faulty gear go ashore upon strange coasts.

(b) *Unemployment.* This is a clear symptom of the same thing. Because of the unreliability of our unit of value, we have been suffering from a mysterious derangement which we call "deflation" and which results in industrial paralysis. There is surely no community gain in this inability to move, and the cause of it is worth investigating. What has happened is that the manufacturer dare not purchase his necessary raw material, for, if deflation continues, it may only be worth half as many "dollars" even after he has risked time and labor upon its preparation for the consumer. Because of this uncertainty he declines to take what may be a fatal risk, regarding it as much wiser to withdraw his services and lay off his help until he sees some sign of the confusion ending, and until the foolish optimists, who counted on a quick recovery and exposed themselves, have been decently buried.

Again it is worth pausing to point out that this is not the result of an issue of fiat money, as we should imagine. Andrew D. White might have been describing our monetary confusion of today when he wrote with reference to the "assignats": "The result was that capitalists declined to embark their means in business. Enterprise received a mortal blow. Demand for labor was still further diminished. The business of France dwindled into a mere living from hand to mouth. This state of things, while it bore heavily against the interests of the moneyed classes, was still more ruinous to those in more moderate, and most of all to those in straitened, circumstances.⁸

(c) *Destructive taxation of industry on the basis of inventory values (or arbitrarily limited depreciation measured in dollars).* Under this type of periodic bureaucratic appraisement, real assets may have entirely disappeared before the calculated tax falls due, and all that is left is unrealizable assets which rest upon nothing more valid than a cloister-born "Treasury Decision." The primary result of this periodic crystallization of fluctuating dollar values is the inevitable crippling of business and industrial organizations, normally capable of useful service in the social body. The secondary effect is restricted functioning and unavoidable laying off of help. In

⁸ "Principles of Money & Banking," H. G. Moulton. Page 146. University of Chicago Press, 1916.

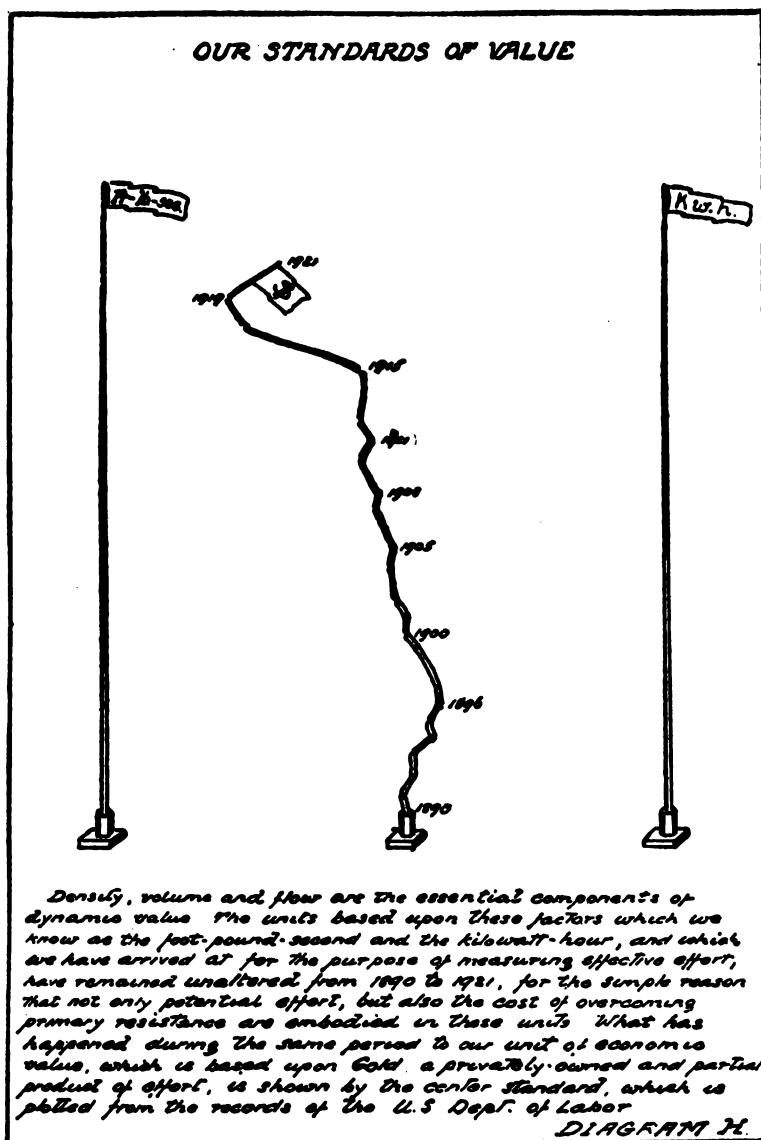
Note, *Diagram H*

It should be emphasized that the centre standard in the diagram opposite represents the value of the so-called "gold" dollar (in terms of certain goods) during a period (1890-1921) terminating in the Great War and its aftermath, so that the fluctuations of our "unit of value" were exaggerated by extraordinary circumstances. But extraordinary circumstances do not alter the value of any other scientific unit. To impugn the validity of the gold standard by showing what happened to it in terms of goods is simply a case of explaining in detail that the pot is blacker than the kettle, since goods are also incapable of measuring basic economic value, though a better approximation may be made in terms of goods, as they are more closely related than gold to our ultimate measurable factors—area, population and time.

What actually happened during the period of war was that the owners of land and goods, and the sellers of immediate services who were not bound by contract or convention, gained enormously at the expense of those who were so bound, and at the expense of the exerterers of past effort—the old and thrifty—and the helpless beneficiaries of past effort—the widows and orphans—who all lost disastrously because the futile unit of value to which they held just title was tied to nothing representative.

It may be argued that something more took place than an interior redistribution of wealth, and that the United States undoubtedly grew richer because of the war. This is perhaps still an open question. We sold goods in exchange for a little gold and many dubious instruments of credit. By the time these instruments are redeemed, goods may well be at the same high price levels, in which case there will be no gain.

If our interior units of value had been limited by measurable factors, the effect of increased activity calling for labor, and increased government expenditure calling for taxation, would have been to increase the demand for money in terms of goods, which is exactly the result we require for purposes of equity, and would indicate that our unit of value was a valid one.



many regrettable cases the effect is bankruptcy, involving other useful organizations, so that the employment of labor is still further diminished, with consequences in individual tragedy which cannot be measured.

Unfortunately the only extra labor called for, during such a period, is that of multitudinous Government officials, Treasury Department sleuths, so called tax-experts, attorneys, receivers and other carion-hawks of commerce who fatten in proportion to the fatalities. It is not their fault, but the havoc has been so great that the unpleasant task of administering the *coup de grâce* to the wounded and of clearing up the remains must be attended to by some one.

(d) *Alternate "inflation" and "deflation."* This is often accentuated by the "adjustment" of interest rates, which is to some extent instigated or sanctioned officially,⁴ and is a cruel buffeting, first from one side and then from the other, of the economically insecure, with the result that they are crowded into dependency without ever quite realizing how it was done. What we all see is that if there are two parties to an extended contract during such a period, one of them must suffer disastrously, because he has agreed to give goods for dollars on the way up, or dollars for goods on the way down. When the immediate pressure is over, the victim of the buffeting finds his watch gone and his pockets inside out. He has been "frisked," but not by his neighbor who may have suffered equally in another direction, or by some prowling criminal. The damage must be laid to circumstances beyond our control. However, they are only beyond our control because we have made no attempt to control them.⁵ And no control can be effective till we have a scientific unit of value.

⁴ Compare the policy of the Treasury Department cited in footnote on page 228 with the subsequent policy of the Federal Reserve Board. "There was nothing 'hesitant' in the policy of the board at this time—Rates were advanced as follows in January, 1920—Liberty Bond rate from 4½ per cent at ten banks and 5 per cent at two banks to 5½ per cent at all banks. Such marked advances of rate do not betray 'hesitation'; they evidence conviction."—"Federal Reserve Policy," A. C. Miller, Federal Reserve Board, Washington, D. C. *American Economic Review*, Vol. XI, No. 2, June, 1921.

⁵ "We need, for instance, a science of the money market and of commercial fluctuations, which shall inquire why the world is all activity for a few years and then all inactivity; why, in short, there are such tides in the affairs of men."—W. S. Jevons ("The Future of Political Economy"), "Principles of Economics," page 206. Macmillan and Co., London, 1915.

What we need is not a science of the money market but a scientific money.

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Our real values do not rise and fall fifty per cent in a year as we imagine. We think we have chills and fevers because the graduated scale slips up and down our economic thermometer.

In the last analysis, inflation and deflation are the mathematical consequences of employing an unrepresentative measure of value. During a period of inflation our relatively *contracting* measure tells us that fifty is rapidly becoming a hundred; and with a shortage of goods we call ourselves rich. During a period of deflation our relatively *expanding* measure tells us that one hundred is rapidly becoming fifty; and with our shelves bursting with goods we call in our creditors. We measure facts by a fiction and live in a perpetual state of hysterical elation or hysterical fear.

The further symptoms which indicate a lack of organic relationship between basic economic power and basic economic responsibility, due to this failure to measure them scientifically, may be indicated as follows:

(e) *Seduction of Capital.* There is a growing tendency on the part of such capital as has survived the buffeting referred to above, to align itself, by invitation, with the taxing power of the community instead of identifying itself, as would be normal, with that group in the community naturally interested in venture and production. Such capital is now offered tax-exempt sanctuary by the politician, who in granting immunity gains for himself large means of patronage and perpetuation of office. For the average citizen some immediate facility is compassed with no reckoning of ultimate cost, but he has to face the immediate increase in his own share of current taxation, arising from the inevitable payment of interest to the exempt, since all exemption from taxation throws a diverted burden upon the consumer who has steadily more to pay as stronger interests gain exemption or privilege.⁶

(f) *Seduction of Labor.* As already stated, the word labor is employed, as economists usually employ it today, to cover both physical and mental effort. Our failure to tax justly, and to subsequently measure justly, are the underlying reasons for the fact that hundreds of thousands of normal United States citizens, who would prefer to produce when they have accumulated a little capital, actually find it safer to try to make a hazardous living off paltry trading. Trading or exchanging,

⁶Compare footnote, page 243.

on the assumption of a quick turnover, is hazardous enough, using a so-called "gold" dollar as a unit of value; but, for a long time past production has been suicidal. This is why we shake our heads wisely at our young men who want to go farming, mining or manufacturing, and find them a respectable job in a store, a bond-house, a bank, or a state-bureau.

It is only necessary to discuss this matter with any intermediary in trade, if you are still on speaking terms with him. He is regarded, by producer and consumer alike, as a robber because to protect himself against a fluctuating unit of value, he underpays the producer and overcharges the consumer, striving, in the only safe way he can see, to make enough to feed his family—and he overcharges without hesitation when he is smarting under some loss due to a sudden shift in the incidence of taxation, or some unaccountable change in the unit of "value." Yet if you could get at the heart of these men you would find that all their dreams are of production; they make furniture at night in the basement; they spend their spare moments of daylight in the garden: they know of "prospects" in the mountains, or a little ranch in the valley—these are their dreams. But they have brothers or cousins or school-day friends who drift in with shame for a small loan or a meal—the foredamned who did the normal thing, and, under our present vicious system, tried to produce, and were broken. These venturers, our best citizens, have not in many cases the means to bring into the world children who might inherit their normal desire, so that by breeding we are fast becoming a nation of money-lenders, traders, bond-brokers and dependents. We can see it in our limited region of contact with the world—in our own block. We can see it in the drift from the country to the towns.⁷ We sigh with relief when our boys decide to do something "safe." And if we have the patience to digest an interminable record, we see it in the ingenious legislation which is framed to mitigate the consequences of a primitive conception of value, and the more shameful legislation now incorporated in our codes to protect us from those perverted producers who have taken to trading because our corruptible unit of value has prostituted their instincts. As pointed out previously "*products were sold at a sacrifice*"⁸ to save our vicious standard!

(g) *Taxation on the Basis of Effort and Need.* "Industry," the name which we give to highly organized effort: in-

⁷ Compare page 245.

⁸ See footnote, page 120.

dividual effort, if it is successful in creating any visible facility within our own borders which can be seen by an appraiser: extra-effort which is indicated by a larger income; and need or consumption—these are all taxed directly or indirectly, with no consideration of the fact that in taxing effort in any form we are interposing barriers in the path of free flow, which is the essence of value; in taxing facilities—houses, factories, vehicles, railroads, etc.,—we are penalizing the elimination of friction, and restricting production; while in taxing need or consumption through the secondary incidence of income-tax, sur-tax, franchise-tax or any form of sales-tax, we are wilfully slowing down flow by interfering with demand, which is just as vital a contribution to value as supply. It is almost beyond belief that this is a system acquiesced in by a free and intelligent nation, when we have a comprehensive gauge—namely, the occupancy-value of area, the control of which can be held responsible through taxation without any interference with the normal flow of effort.

If we take concrete cases, and consider the effect of this politico-economic survival of autocracy, within the borders of democracy, we may see more clearly what happens:

Let us consider, first, the case of a very competent individual with a great surplus of wealth at his command, who would normally be keenly interested in the internal development of his own country, by creating advantageous facilities, thus eliminating friction and adding to total value. We realize promptly he faces the fact that every step he takes in this direction is noted by an appraiser and taxed. If his desired project is ambitious, requiring ten years to complete, and the property taxes are 3 per cent, he forfeits at least 15 per cent of his capital in addition to the 25 per cent loss of interest, on the basis of 5 per cent per annum. As a consequence the creation of internal facilities looks anything but desirable to such a man; and he turns reluctantly to tax-exempt securities (thus adding a burden to his poorer neighbor), or to the business of lending to a neighbor who can pledge satisfactory security and who is willing to do so because his instinct for creative work exceeds his knowledge or discretion; or he turns to foreign investments, thus throwing the weight of his fortune on the side of imperialism, which in democracy is a clean symptom of interior maladjustment, since we have not begun to do the advantageous tasks that call for accomplishment at home.

Let us consider next the case of a very moderately well-to-do individual:

We find that either through various agencies this man is doing the same thing as his wealthy neighbor, or he is endeavoring to inject himself somewhere into the desperately competing and over-manned group in the community which makes a meagre living off exchange.

Under a rational system of taxation, based upon the control of value instead of value itself, both these men, being normal human beings, eager to move advantageously, would produce goods or create facilities, thus adding to the sum-total of value. All that is needed to liberate their effort, and induce them to do the logical and advantageous thing, is the assurance of their fellows that they will not be taxed until they have successfully accomplished their undertakings and, if they own land, have finally created and demonstrated their *control* of basic value by attracting population. If they do not own land, then those who do, and thus control this newly created value, should be taxed—not the creator of the value.

Apart from this criticism of our retention of a method of extortion which arose when the defrauding of honest effort was one of the accepted privileges of autocracy, we have always before our eyes the spectacle of two protesting victims of our present injustice—Industry representing highly organized effort, and Labor which represents most fully the factor of demand—in incessant warfare, and dealing very hardly with each other in their desperate struggle for security. Industry, with the advantage of a costly alliance with prostituted capital,⁹ appears, through its anonymous continuity, to be stronger than its fellow-victim. With the desperate hope of self-preservation, Industry seeks to pay less to Labor because of increased taxation, and finally has to ask more for its product. The consumer, who is largely Labor, has to make the final concession of place to these adjustments, and is forced to pay more and to purchase less because of diminished earnings, while the control of Industry passes invisibly from the producer to the money-lender. We say callously that it is not safe to invest in a pioneer industry until it has been through the hands of a receiver, showing that we can calculate on the effects of our debased system of taxation even if we cannot look for the causes.

(h) *The Survival of Serfdom.* A secondary economic effect of our archaic system of oppressive and punitive taxation, which is not given due consideration, is our distorted pro-

* Prostituted by us through our tax-system—not by its individual owners.

duction of foodstuffs. If we take the case of a typical American farmer, whose capital is his land and equipment, and who is usually quite intelligent enough to study the news of the world's grain markets with the same care as the grain-merchant or miller, we shall find him fully aware at seed-time that there is a heavy carry-over of oats, barley, corn and wheat, and fully aware, also, that at the ruling rate of wages his projected grain crop is likely to yield him less than it costs. Under parallel market conditions, a manufacturer would suspend operations, or vary his output; a silver miner would drift toward a gold camp; a copper producer would close down his mine and smelter; a financier would buy foreign bonds if local interest rates were too low, or if our offers of exemption were not sufficiently tempting; but we have our typical farmer safely pinned to his farm; and it is worth while for a moment to watch his struggles; for he has never dreamed that there was such a thing as exemption.

At first glance, it would appear that he, of all men, was most free to vary his output, or cease operations entirely and content himself with feeding his family. But he cannot do this; for, under our archaic system of taxing his equipment, effort and produce, he faces a burden the wealthy investor is often able to avoid—an annual capital tax. His only chance is to struggle on, hoping against hope that absolute disaster will overtake some competing grain area—and save him. He is obviously compelled to raise grain or hay, since this calls for the least hiring of labor and the least outlay of money. The isolated economic critic suggests gravely that he should diversify his crop under such circumstances; but the critic does not know that a crop of onions, celery, garlic or potatoes calls for the hazarding of an amount which is often far in excess of the improved value of the land. Such a critic might just as well talk of the advisability of a farmer in this position getting a limousine to save his children their three-mile trudge to their second-rate school. An onion crop, for example, which can well be grown on land assessed at \$75 per acre, calls for a seasonal expenditure of \$150 per acre, and this sum may be entirely lost if the weather is such that the plants go to seed. It is sheer mockery to talk of diversification and intensive culture. The real dilemma our typical farmer faces is due to the fact that he is the ultimate victim of nearly all our indirect taxation, and is also the victim of a direct annual property tax, based on his equipment, improvements, live-stock, crop and real estate, which is either already delinquent, and

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carrying a penalty, or has been translated into a mortgage. Somehow, somewhere, he has to procure money to meet this, or lose his land.

The unfortunate man faces his plight doggedly, and hopes with a sense of shame—which should be quite vicarious—that by dispensing with the choreman, rising an hour earlier, and utilizing the services of his wife and children, he can win through—but, in face of all the logic of adverse data, he again plants oats or barley or wheat or corn, thus adding to our exportable surplus, and dragging down the price of his neighbor's output. It should be evident that under our present system of taxation we have the farmer very neatly trapped, so that, even in the face of disaster, he must keep adding to our surplus of cheap food. It is probable that nothing more ingenious was ever devised by a native princeling of India: indeed, it is a question whether such a one would not be a little chagrined at having overlooked our plan of adding a mounting penalty to taxation in case of low markets or a crop failure, thus ensuring either a cheap exportable surplus for the coming year, or the dispossession of the small landed proprietor who might, under prosperity, grow too independent as to what he saw fit to produce, and base his activities on the demand of others instead of his own desperation!

At various points in our examination of the possibility of an economic system, rationalized to conform to the impersonal ultimata of science and the hopeful assumptions of democracy, it appeared obvious that the continuous victim of our present maladjustment is the farmer. There are other outstanding victims, particularly the unorganized laborer, the unemployed, the small investor and the less powerful manufacturer; but these are chiefly the victims of the inevitable "cycles of depression" which result from our unscientific currency; while the farmer is the residual legatee of all our maladjustment.

A cross-section at any point in the economic circuit shows the unnecessary obstructions in our channels of exchange, or flow, due to illogical taxation and currency; but a basic cross-section in the zone of agricultural production lays the whole matter bare.

In 1920, the farmers of the United States, with the help of their wives and children, earned, according to the estimate of the National Bureau of Economic Research, an actual wage of about \$219 per family.¹⁰ This is based upon an esti-

¹⁰ "Income in the United States," Volume II, page 63. National Bureau of Economic Research, New York, 1922.

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mated total revenue for all farmers and farm-owners of \$8,111,000,000; and allows rent or interest on a total investment of \$77,900,000,000. Taking the average farm family as three effective workers, this is about \$73 per capita, per annum for labor, as against an average of \$1000 per capita, per annum for domestic servants. If the figures of Mr. H. A. Wallace covering estimated revenue for 1920, quoted by the National Bureau, are more nearly correct, namely, \$3,900,000,000, then, after paying rent and interest, the farmer's family went heavily into debt; for the combined rent and interest bill was \$5,116,000,000. It is a matter of common knowledge that very few farmers in the years 1920, 1921 and 1922 made sufficient margin to pay their taxes. It is hardly possible to overstate the case. For the sake of a judicial review, let us take the temperate summing up of the National Bureau of Economic Research:¹¹ "Even though the same money will buy considerably more of certain commodities in the country than in the city, it nevertheless appears that the average farmer can scarcely with justice be considered a pampered child of fortune."

The gist of the whole matter is this: we have an illogical system of taxation based originally on the sweating of the agricultural laborer—and we have not changed it. Instead of taxing control of value ($\text{area} \times \text{population-density}$) we continue to tax effort itself for the benefit of the urban controllers of value ($\text{area} \times \text{population-density}$). The farmer is grudgingly given extended credits; he is given free garden seeds; and he is given a mild scolding when he organizes an "agricultural bloc." His minor grievance is a denial of the right to have what little value he does control officially certified; but his major grievance is a burden of direct and indirect taxation out of all proportion to anything but his blind and unrewarded labor.

Owing to the invisible exactions of our tariff, the farmer also suffers from the most iniquitous tax that can be devised, namely, a tax on his gross output, quite regardless of the fact that there may be no net margin. This may be plainer if we look at ourselves as we look at others.

The United States Department of Agriculture, under date of January 6, 1923, quotes one of its experts, Mr. Louis G. Michael, Economist in Foreign Agriculture, who has recently made a study of agricultural economic conditions in Europe

¹¹ "Income in the United States," Volume II, page 64. National Bureau of Economic Research, New York, 1922.

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for the Department. In part, Mr. Michael states as follows:

"Formerly Roumania was a great wheat exporting country, 59.3 per cent of production finding its way onto the Western European market to compete with American-grown grain. This export of grain was possible only because wheat bread eating was restricted to *city population and the upper classes*, who consumed about 792 pounds per capita per year. *Had the peasants consumed a like amount of wheat there would have been little for shipment abroad.*

"In all countries in Southeastern Europe, with the exception of Bulgaria, this same condition of affairs obtained—the peasant was undernourished, his diet was without variety, and food that he should have consumed to keep himself in good physical condition was taken from him to meet *excessive taxes or exorbitant land rents*. He was virtually the slave of the large land owner and the state.

"To-day that is changed, the peasant is beginning to eat bread; after centuries of submerged individuality he is taking his place among his own peoples as a man, despite the obstructions of the great lords and the opposition of the cities. The peasant's wife is demanding to be better clothed, even buying satins that she calls 'the cloth that goes swish-swish.'

"The fact that the peasant is eating bread is causing a revolution throughout Southeastern Europe that extends even into Middle Europe. This revolution is better known as the land reform. The peasant, brought to a realization of his power by the great war, demanded enough land on which to produce a decent living for his wife and children. His demand was a threat and he got the land. He has begun to feed his wife and children not only bread, but also meat—a former Sunday luxury. *He is growing upon his land the things he wants to grow for his own use. . . .*

"All this is having a peculiar effect upon the national economics of the various countries in which he lives. The big estates organized their operations about wheat production as a center, the wheat to be sold for cash and the cash to be expended in the great luxury centers of Paris, Venice, Berlin, but not in the country where the wealth was produced. Consequently these countries were left poor, *their resources being pumped out annually to give a few weeks of pleasure abroad to the upper classes. . . .*

"Then the great change came. The peasant, who had formerly slaved to produce the exportable grain excesses, began to work for himself and in the interest of his own imme-

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diate family. *The great excess acreage seeded to wheat was cut down to more nearly that required to meet local needs.* Naturally also there was a drop in the yield per acre and then on top of this the peasant and his family began to eat wheat. This has played the mischief with export wheat and upset the balancing of trade deficits and made national budgets knotty problems for overwrought finance ministers.

"The drop of about 90,000,000 bushels exportable wheat in the Danube basin alone is a serious matter for those nations, especially Roumania, which depended upon wheat more than any other product to *keep its money at par.* But when one considers that these governments were not of the people, but were for and by the ruling class, and when one realizes that the peasant, the common man, is better off to-day than he has ever been before, one cannot help but feel that the time has come for the governments to adjust themselves to the new order."

In a further comment, Mr. Michael adds :

"The large estates, in time passed, produced vast amounts of wheat—the whole farm organization being built up around wheat production, just as in Iowa it is built up around corn and hog production. These large owners had no patriotic motive in growing wheat. They grew wheat for the cash it brought them and that cash was expended largely abroad at the luxury centers—Paris, Berlin. But they produced much more wheat than the cities ate (the peasants ate but little white bread) and the excess was exported abroad. This created a balance of trade in favor of the exporting nation and *kept its money up to par.* . . .

"When the peasant got hold of the land he began to grow the things he wanted to grow. . . . The result . . . was somewhere around a hundred million bushels less export wheat in 1920, if we take all of the Danube States together. This played havoc with balances of trade and the exchanges value of the money of most of these countries took a big drop. *The State and the city dwellers suffered and accused the peasants of disloyalty to the Government for not growing wheat.*"

The italics are inserted to point the significance of this impersonal review. The omissions are not germane to the writer's contention, which is this : High rents and high taxes, whether direct or indirect, have precisely the same economic effect upon the tiller of the soil, and force an illogical production of an exportable surplus to *keep our money at par.* The earnest and misguided friends of the American farmer are

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trying to help him by creating foreign markets for his produce in which at the best, because of our tariff laws, he can exchange a dollar's worth of wheat for seventy-five cents worth of goods or labor. If these champions of the American farmer really desire to help him, they should concern themselves with the economic rack-rent which he is now paying to the city-dweller through direct and indirect taxation.

If it should appear that the desperate position of the farmer has been stated with too much prejudice other authorities may be cited.

Mr. W. R. Ingalls, a very conservative observer, in an article entitled "Whither Are We Going" (*Mining and Metallurgy*, New York, May, 1923), among other comments upon the present maladjustment, states as follows: "Town labor, in general, sucks the produce for which the farmers sweat." And further: "We are probably destined to experience even worse economic violations than at present; for the farmers, already victimized by town labor, are likely to create new evils under the guidance of political charlatans. Perhaps that very thing, disagreeable though it may be, will bring us the more quickly to sanity."

The Guaranty Trust Company of New York, in its *Survey* of April 30, 1923, sounds a still more ominous note. (The italics are inserted.)

"In so far as the existing maladjustments bear heavily upon the agricultural interests, *possibly more than a temporary condition is appearing*. The war-time expansion of industrial producing capacity in this country has accentuated the tendency toward the predominance of manufacturing. Moreover, heavily indebted countries of Europe, whose food requirements have been a mainstay of a goodly proportion of the American Farmers, now have unusual inducements to depend as little as possible upon imported supplies. *And there is the added fact that the present tariff policy inevitably operates to the greater advantage of manufacturing than of agricultural interests.*"

There is one more comment to be made which may point the argument still further.

In a speech made in the Senate, pleading for remedial legislation, under date of February 2, 1923, Senator Gooding of Idaho states as follows:

"In Minnesota, thirty-four farmer suicides were reported, eighty-seven in North Dakota, thirty-two in South Dakota and fifteen in Wisconsin."

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(i) *Exemption.* Much of the expenditure of local divisions of government is based upon the large temporary sums of so-called "gold" dollars which can be borrowed from the more fortunate by offering sanctuary till the storm is over, or, in other words, by the promise of immunity from certain taxation. This, as shown above, entails a wilful, if not openly expressed, policy of extracting ultimately the payment of principal, the current payment of interest, and all the loss of revenue involved in exemption, from those who, having no surplus funds seeking exemption, must, month by month and year by year, because of old debts, new borrowings and mortgages, followed by defaults, tax-penalties, foreclosures, and finally by deficiency judgments, piece by piece transfer their real estate, their chattels and finally their independence to the complacent holders of tax-exempt securities. In short, government expenditure is not based upon any calculable annual increase of real value, but upon an invisible coercion of the producer and consumer, and direct bribery of the holders of title to our so-called "gold" dollars—a process which definitely involves us in a policy of robbing the economically sick and dying for the benefit of the stronger.¹² It would be a less painful task to write thus of some old-world autocratic government; but we must face the fact that these blind policies and vicious practices are our own. The slogan of our many Bureaus, Federal, State, County and Municipal, and the buyers of their bonds, might well be, "Let *us* eat, drink and be merry, for tomorrow *you* die."

In exemption of any kind, under our present system of taxation, whether offered to that type of capitalist who is tempted into the position of publican, or to politician, teacher, policeman, judge or to the Church, we have so definite a disregard of the relation between economic power and responsibility that confusion is inevitable.¹³

¹² "Our public revenues seem destined to further shrinkage by reason of the huge investments that are going into tax-exempt securities, the inevitable effect of which must be to increase the burden upon industries and properties that are not tax-exempt. . . . It has been estimated that approximately thirty billions are now outstanding in bonds that are wholly or practically tax-exempt, the revenue from which should approximate one and a quarter billions per annum."—*The Business Outlook*, May 15, 1922. Wells-Fargo Nevada National Bank of San Francisco.

¹³ Banks organized under the Federal Farm Loan Act in selling their bonds advertise as follows: "The bonds issued by the Banks are instrumentalities of the United States Government and are exempt from Federal, State, municipal and local taxation." They go further than this, and write the desired subscriber to request his *secretary* to estimate how

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In a so-called commonwealth with a realization of ultimate consequences, exemption of this nature would not be permitted in our midst, any more than would a royalist party or advocates of a military dictator. There is no fundamental difference in any of these three dangers. Autocracy and dictatorship are political dangers and therefore we are on guard; but because the effects of exemption are economic we jeopardize our liberty for lack of vigilance. Exemption, if carried on, means the inevitable concentration of economic power in the hands of the stronger few who have bargained for immunity and, in due time, through Tax-collectors, Banks, Trust Companies, and other reluctant undertakers, expect to foreclose upon the possessions of the weaker many; and not only fall heir to their goods but be able to enforce deficiency judgments and long protracted obligations falling from father to son, to be worked out painfully by labor and by deprivation for as many generations as they can be herded gently by the so-called capitalist who has gained exemption, by the state politician who thinks chiefly of his easy well-paid job and has been granted exemption, by the state teacher who is supposed to inculcate loyalty to authority and is exempt, by the policeman who enforces that loyalty and is exempt, by the state judge who severely punishes disloyalty and is exempt, and by the Church which preaches righteousness and resignation to authority, not in the name of Capital, but in the name of Christ, and is also exempt. That it is only partial exemption does not matter. It is actual disorder. What does matter much is that it is our own fault, and not the fault of those that are exempt.

This maladjustment, however, has its element of comedy. Exemption appears to be much more of a boon to the very wealthy than it actually is. They gain exemption; but their capital is bleeding to death through the inevitable depreciation of the dollar. As usual, the sharp tragedy of our bungling falls on the struggling farmer who pays far more than his share of both direct and indirect taxation, and on the simple-minded thrifty who have saved a small margin by self-denial and are investing in bonds or in life insurance. The \$11,000,000 worth of bonds¹⁴ that are exempt, together with

much taxation he can escape by calculating the exemption value of these investments. They are offered to those few of us who have secretaries. For all it has to do with democracy, they might just as well ask us to join in a raid on a neighboring village and request our *seneschal* to figure out the live-stock and other loot that is likely to accrue.

¹⁴The Secretary of the Treasury in his report of the Treasury Department (Dec. 6, 1922) for the past fiscal year estimates that the volume

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interest, have to be paid back to the lender through taxation, which must result in rising prices—or revolt. In the long run, then, the bulk, if not the cruelty, of the burden will fall on the exempt; and bleeding to death is said to be very painless in the early stages. But the actual suffering of the producer and the weaker investor has already commenced.

(j) *Overcrowding of Cities.* This is an obvious symptom of badly arranged taxation and a less obvious symptom of a steadily deteriorating unit of value.¹⁵ Within any large city we see certain property increasing in value from generation to generation far faster than the average rate of increase; and this type of wealth in reality is due not to enterprise and service but to a power to demand tribute from the thwarted producers who, because of our devastating unit of value, crowd in to become money-changers, bond-salesmen, traders, hawkers and lackeys. Such power should not be confiscated: it has been dealt with by all of us as tangible property: but it should be recognized and then held responsible. In a national area with an average population-density of 10 per acre, one acre with a population-density of a hundred is basically one hundred times as valuable as an acre with a population-density of one. If taxation rested on this basis we would, by destroying privilege and encouraging production, have gone a long way toward the prevention of over-crowding.

(k) *Lack of Demand.* In discussing the net product of trade, Professor Pigou¹⁶ refers to an estimate of an annual expenditure, the world over, for advertising, of £600,000,000, or roughly, \$2,790,000,000. Some of this advertising undoubtedly has an educational value; but the mass of it—soap vs. soap, toothpaste vs. toothpaste, flour vs. flour—is purely competitive. Little of this advertising creates effective demand: it bids fiercely and wastefully for a share. From an engineering standpoint the most significant consideration is that there is no logical reason why well-stated demands—which would also have an educational value—should not be advertised as lavishly as supplies. They are of equal value. If this assertion is disputed it is fair to ask why more money is spent in looking for the thing of less value.

of *fully* exempt securities is now approaching \$11,000,000,000 and is increasing at the rate of \$1,000,000,000 per annum.

¹⁵ See page 234.

¹⁶ "The Economics of Welfare," A. C. Pigou, M.A. Page 173. Macmillan and Co., Ltd., London, 1920.

The incontestable fact is that the major portion of the stream of desire is choked by obstructions and rendered ineffective. The paltry effective demand that emerges is fought for as wastefully as hogs fight for food. We blindly devote the bulk of our liberated effort to the production of commodities and then scatter them boastfully over the world, instead of utilizing all surplus effort for the creation of common facilities, and, by this simple adjustment, not only increase effective demand, but vastly increase total value by the diminishment of resistance. Money is only the *token* of a nation's medium of exchange: bridges, highways, schools and hospitals are contributions to the *value* it should represent.

We have taken over into what we call democracy a political machine which was skilfully fashioned for the purpose of encouraging supply and thwarting all demand, except that of a favored few. It worked badly; but it was capable of forcing a production of exportable commodities which were promptly commandeered, through the instrumentality of coercive rent, false interest and oppressive taxes, and sent abroad in exchange for laces, silks, wines and spices for the further gratification of the favored few. We took this machinery over blind to its purposes and we have since got rid of its beneficiaries; but we have not made much improvement in the lot of the victims. As a matter of fact we have modified everything but its restrictive functions. It is true that we have wrested its control from those who used it so profitably for themselves; but they had one qualification in their favor which we lack. They knew how it was built and what it was built for. What we have done is to eliminate the tyrant but not the tyranny—and we are all victims. The controller of supply now fights for a share of thwarted demand instead of calmly taking it on his own terms as formerly.

The most surprising thing about many of these symptoms—debasement of currency, tyrannous taxation, well-placed exemption, etc.—is that they are in no way novel symptoms of disorder, or even newly discovered. They are typical symptoms, long charted by historians, of arbitrary power (that is, power divorced from its corresponding responsibility), which not only antedate the Magna Charta and the decay of Greece and Rome but were a subject of deep concern to the framers of the Mosaic Code, who swept away their economic confusion at regular intervals by means of a jubilee. Their

lack of sinister significance to us is due to the fact that we have not learned to apprehend coercion if purely economic. If a policeman were to enter our house and seize our goods without a warrant we would be ready to fight, but our savings bank can be invisibly tapped of half the value of our deposit, leaving our deposit intact, and we are only bewildered. If a messenger of the government supported by an armed body-guard were to seize a portion of the American farmer's crop (as we do now under our personal property tax), while a wealthy neighbor was exempt (as he now is under the Farm Loan Act), the American farmer would be reaching for his gun; but because this discrimination is not apparent, the farmer struggles to raise the extra money needed, denying himself, and his family, leisure and the simple decencies of life, while he foolishly imagines that every other citizen is in the same difficulty. And the irony of the situation is that it is quite useless meeting this injustice with the old-fashioned and rather dignified gesture of reaching for the gun—there is no one to shoot but ourselves. Through political liberty and economic ignorance we are not only individually the victims of tyranny but jointly we are the tyrant.

At this juncture in our history, however, there is a great probability that we shall commence to correlate cause and effect; for while the symptoms are basically no different, they are enormously accentuated: where we were formerly a little lame we are now crippled: where we formerly stumbled we now fall; so that it is possible that we may at last become interested in an investigation of the cause of our confusion.

For the reasons just stated, which it would be difficult to dispute, some rearrangement seems called for. The outlines of a logical adjustment are put forward, therefore; but they are put forward tentatively, with a full realization that they call for the most searching criticism, yet, nevertheless, with a deep conviction that the diagnosis, and not the specific remedy, is the important thing to be accepted or rejected. The diagnosis has been stated with the utmost confidence: the remedy is quite properly a matter for discussion between such as there may be to accept the diagnosis.

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Now at the risk of wearying the reader the diagnosis is this: during the transition from autocracy to democracy, basic economic power, arising from the control of value, and basic economic responsibility, which should be proportionate to this control, became entirely divorced. This took place without scrutiny because we were at no pains to find where power lay, or to measure it scientifically. As a consequence of the absence of order, value became an empty word.

In other words, the diagnosis alleges that economic responsibility for the insurance of order, and the value resulting, have not been capable of impersonal measurement since they were wrested from the autocrat; and that this must be made possible if effort is to be freed from the deadening entanglement of privilege—that is, if democracy is to be able in any way to provide guaranties of individual freedom. If this is admitted, then any remedy put forward must offer, first, a valid means of impersonally correlating economic power and economic responsibility; and, second, it must put forward a rational means of measuring the resulting value.

Before attempting even the outlines of a tentative remedy it seems important to try to clear away unconscious prejudice by emphasizing the fact that the diagnosis of our ailment put forward is not purely deductive, but is a deliberate sweeping aside of autocratic tradition, and the long-standing illusions which have arisen in economics because of this tradition. The measuring of economic values within national boundaries by the use of gold was a perfectly logical attempt to remove the hazard of fraud as between a monarch and his subjects, or between these subjects themselves, since there was no conception of the relation of order to value, and since every tangible value was either a private preserve, or was subject to arbitrary alteration through edict, exactly as they are today internationally, under circumstances that still make the use of gold unavoidable.

It is most important to realize that we are not the victims of some vicious "system." There is no system.

CHAPTER III

THE TOUCHSTONE OF WAR

LET us try to get in narrow compass a picture of what has been happening in our commonwealth during the last few years owing to such methods, or, more properly, to such lack of method, and of how disastrous to many has been our failure to make an attempt at measurement. In the first place we have jointly issued national obligations, to the amount of over 23 billion dollars, which we have promised to repay in gold. Of this vast sum we have collectively very little left. Part of it has been credited to the owners of the goods and services we needed, and debited to various nations, some of which cannot possibly repay us. While we shall only get back a small portion of this amount into our Treasury, and as a nation shall get back nothing of the large amount which was wasted owing to the necessity of haste, nevertheless we are pledged to pay back in *gold* every cent to those who lent us their *credit* with which to wage warfare. They did not lend us gold, for we know that there was not more than a fraction of that amount of gold in existence. We credited them with so-called value and rashly agreed to return gold instead. Putting this transaction in other terms, as stockholders in a financial institution we jointly endorsed and accepted as deposits the inflated credit instruments of individual stockholders, and our directors agreed to make good these optimistic acceptances in gold at a later date. Then, as stockholders, we voted to ratify and hold ourselves fully responsible for the acts of our directors, assuming full stockholders' liability, as we quite properly should if we elect that kind of director, and take pride in such expansion of doubtful paper assets and definite bullion liabilities. Now a smaller Bank than the United States Treasury, doing business upon this basis, would be promptly closed up by a

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State or Federal Bank Examiner: the stockholders would be quickly brought to their senses; and the delusion that they could meet their never-ending obligations by the endorsement of fresh paper would be dispelled. If a business house attempted this type of finance it would be called "kiting" or worse. If a Bank did it, it would be called "pyramiding" or worse; but if a government does it it is known, for the moment, as brilliant financing. As matters now stand, however, regrets and recriminations are useless. It was a great emergency and we rose to it. The emergency has passed; but the consequences of our rising to it in this way are only beginning to loom upon our consciousness. The United States citizen has endorsed a large number of gold notes, and the holders of these notes, the owners of Government bonds, are, quite properly, going to look to the endorser. This is bad enough; and we should be getting ready to face our distressing obligations in good faith, if an entirely unlooked-for factor were not being regarded as germane to the bargain. A new gospel is now being preached which has in it a growing note of sanctimonious urgency. A large voluntary choir chants regularly at matins and evensong, "Deflate and ye shall be saved!" The personnel of this choir demands a little scrutiny, particularly that of its intelligent members. Is there any connection between them and the larger holders of our combined promise to pay 23 billion gold dollars, and are they quite unconscious that title to an ounce of gold under "deflation" may be worth twice as much as the original goods and "credit" which they tendered in exchange for our promise to ultimately pay gold, and, in the interval, to pay interest in gold? We should not insult them by thinking that they are entirely unconscious of this happy prospect; and we can concede that the gospel of thrift and work which they preach is the best gospel in the world—if those who work are justly paid, and those who save are fully protected. Their zeal for these virtues of work and thrift may have carried them away till, unconsciously, they are a little in the position of the single-minded Lady of the Manor, who, in olden days, preached thrift to the cottager, while her husband's agent raised the rent.

Probably every reader is familiar with the doctrine of deflation in one form or another: it is incorporated in almost every current report to stockholders, and echoed by every conventional-minded and earnest capitalist. The following specimen is taken from an address by a very patriotic citizen whose mental attitude is that of the landlord's wife—not of his agent. "But prices must come down. The merchant must bear his losses with the others; coal must sell at a lower figure and railroad rates and the wages of railroad employees must drop. All must do their share and co-operate in putting the damper on depression and restore prosperity." As the situation now stands the danger is that some must do the share of all to restore prosperity to others. If it should seem unfair to quote a very genuine appeal for adjustment, such as the above, in contending that the gospel of deflation has some tremendous implications apart from its *prima facie* virtue, let us turn back and see what one of our leading economists thought of it before the situation was so acute. Professor H. G. Moulton, of the University of Chicago, in 1916, stated as follows:

"Obligations payable in money that are entered into at one price level may be payable at a future date when the prices may be substantially lower or substantially higher. If lower, the borrower finds that he has to repay a greater purchasing power than he received, or, what is more to the point, he finds it difficult in consequence of lower prices (and wages) to repay his loan than would have been the case at the former level of prices."¹

The foregoing is a general picture of our present² extraordinary situation, and gives some idea of what deflation involves. It may be worth while to take two specific details in this picture and look at them still more closely:

During our period of national emergency, every one was asked to lend, particularly those in modest circumstances. They were not only encouraged; they were helped; and in some cases

¹ "Money & Banking," H. G. Moulton. Part I, page 258. The University of Chicago Press, 1916.

² March, 1922.

they were coerced. It was quite properly everybody's war at this stage, and inflation of credit was practised in the name of loyalty (just as deflation is now urged in the name of thrift). All this was magnificent, and we were proud of each other; but that is no reason why we should be blind to what was actually happening because of our fluctuating dollar which is immune from inspection or correction by any competent inspector of weights or measures. During the period of inflation, inspired by our Treasury Department, the loyal citizen in modest circumstances pledged his hundred dollars for the common cause, mainly with a fine pride which was the measure of his patriotism. If he had not actually the hundred dollars to lend, his banker validated his intentions, and the Federal Reserve Bank assisted his banker.⁸ This era of good-faith and helpfulness went on for as long as was necessary to raise the money. But, with the validation of so much credit, a flood of purchasing power was released, and prices started to climb, since all these contributions of credit, large or small, were placed in the hands of various government departments by

⁸ See pages 62 and 63 of the hearings entitled "Reviving the Activities of the War Finance Corporation," before the Senate and House Committees on Agriculture, Dec. 3, 1920. The Governor of the Federal Reserve Board there testified as follows:

"The Federal Reserve Board adopted a policy in order to assist in the war financing which was economically unsound. I say this frankly. Congress authorized certain loans. It authorized the Secretary of the Treasury to determine the rates at which the loans should be issued. The Secretary of the Treasury asked the advice of experts and then fixed the rates of interest to be borne by the several issues of bonds, notes, and certificates. During the time we were actually at war, something like \$18,000,000,000 of bonds were sold to the people, an amount certainly in excess of the normal investment power of the American people in such a short time, and the only way in which those loans could be financed was through the instrumentality of the banks. The only way the banks could undertake to do it was to get some assistance from the Federal Reserve Banks and at a low rate. The low rate of interest borne by these bonds was fixed with a view of holding down the expenses of the Government as far as possible. Anyway, that is something the Federal Reserve Board has no responsibility for. In order to make possible the floating of these bonds we fixed a rate less than their coupon rate. Some member banks announced that for a period of six months there would be a rate of 4½ per cent on notes secured by Government obligations. The result was there was no loss to subscribing banks pending the distribution of the bonds to the public. There were successive bond issues. The principal reason why discount rates were not increased earlier than they were in 1919 was on account of Treasury financing."

which they were spent like water. If they were too busy to spend the money themselves, they paid shipbuilders and contractors a 10% bonus for what they could get rid of legally, and they encouraged them to outbid each other for labor and supplies. This, of course, was due to zeal outrunning discretion, a natural phenomenon when democracy goes to war. Nevertheless, before the disturbance was over, it had the effect of raising prices to a point where the man of very limited means had to part reluctantly with his treasured certificate of loyalty, with its face value of \$100.00, for about \$41.00 worth of essential commodities in terms of his original dollar.⁴ In due time, then, he was separated from the certificate entitling him to gold dollars. Government spending ceased, and later, after the excitement was over, the gospel of deflation was ushered in with all the fervor of a religious revival, despite the general knowledge that this, if acquiesced in, means that those in modest circumstances, through indirect taxation, will have to pay back to the stronger lenders who were not frozen out, and to the later traders, who bought from the weaker at a discount, three or four times as much in goods and services as the weaker obtained for their certificates.

The other detail in the picture is that of the cautious individual who picked up these \$100.00 certificates for about \$85.00 and now hopes to be able to command the efficient chastened service of the man who sold his bond at \$85.00, on a basis of three dollars per day for labor, instead of six dollars per day—a very logical way of making his \$85.00 worth \$200.00, or more, and, for the beneficiary, a happy fruition of our so-called gold-standard system.

Now all this is not the fault of any individual, nor is it due to the malevolent plotting of any sinister "group" or "money trust." It arises because of the quaint delusion, which we nearly all share, that we must submit nationally to the measuring of human effort in terms of an unknown number of grains of gold; and the far more dangerous delusion that we can go on multiplying our promises to pay for effort with gold, when the little gold that exists is already held in private

⁴See page 228.

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or alien ownership. The primary delusion arises from the fact that in the days of irresponsible autocracy the world had to employ one arbitrary to check other more disastrous arbitrariness. Because gold was "almost" limited in quantity while there was no limit to the greed and tyranny of rulers, the traders of the world came to worship gold, just as more simple-minded people came to worship the sun, with much better justification, since they knew when and where to look for it. We also have created a myth from our fears, and we worship it. The secondary delusion—that we can safely promise to meet endless obligations by mathematically unenforceable titles to gold—is a debasement of the original simple form of worship. We are worshipping the image and not the substance. As a matter of fact we are so used to this form of worship that only irreverence will shock some of us into doubt. It is difficult to deal seriously with the worship of this myth, in spite of the fact that it has led us into a situation which is serious beyond the gravest language available for description. Never before have we promised to pay an amount of gold, so vast as this, with no logical hope of accomplishment. To have validated titles to \$23,723,187,276 Gold Dollars,⁵ promising to pay interest upon this amount in gold dollars until we redeem it at a rate of approximately \$750,000,000 per annum: to face also the steady stream of State and Municipal gold bonds, and the newly released flood encouraged by tax-exemption; and then to calmly set out and attempt to double this burden, by making the dollar worth twice as much as it was when we incurred these obligations, is to put a strain upon the structure of society such as it cannot stand: the pressure is going to be far too great. Fortunately, this intolerable strain can be eased politically, if not wisely, by further inflation of credit with its new crop of victims; and if we persist in our gold-standard delusion this is what will happen. Pressure is the forerunner of reform, and the only thing to regret is that what we now call reform is not necessarily beneficial and is usually the forerunner of new and unlooked-for pressure.

⁵U. S. Treasury Department, Statement of the Public Debt, Dec. 31, 1921.

CHAPTER IV

THE MEANS OF MEASUREMENT

THE earth on which we live has a richness in the way of differentiation of detail that has given rise to many scientific investigations; and yet when we come to study the phenomena arising from this differentiation we content ourselves with the knowledge that the earth in motion can be regarded as a self-contained unit by which we measure all phases of physical energy—volcanoes, torrents, tides, the slow movement of glaciers, the still slower changes due to sedimentation, and the effort of the horse to draw the plow.

In the same way, if we regard as *economic unity*, the total value of our national effort toward freedom and order, as modified by the resistances and facilities of the area in which this effort is exerted, and are large-minded enough to forget for a moment the hard-pan in a particular field, and the idiosyncrasies of some immediate neighbor, we can follow similar scientific procedure.

Driving constantly against the freedom which is defined by our national area, we have a stream of adverse factors,—asphyxiation, thirst, hunger, cold, dirt, disease, disorder, ignorance, ugliness, etc.—and this stream sweeps steadily downward toward misery and destruction. Against this merciless current we exert,—consciously and unconsciously, jointly and severally,—a countervailing series of efforts,—breathing, drinking, farming, building, sanitation, hygiene, co-ordination, education, art, etc. Owing to these countervailing efforts,—which are normally intensified as retrogression becomes obvious,—we are not swept to destruction, any more than our unanchored planet is sucked down into the flaming vortices of the sun. On the contrary, just as the earth is perpetually balked of its desire to come safely to rest, we are also balked of the vain hope of patenting our title to freedom. All the currents set too strongly in the other direction.

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The best we can do is to fight cheerfully against the stream of resistances in which we now hang poised,—like a raft occupied by a nervous pleasure party on the upper terraces of the Niagara.

Wherever we are at the moment, therefore, effort and resistance may be rationally assumed to balance. Otherwise we would be somewhere else.

National wealth, or total value, then, equals $\frac{\text{Effort}}{\text{Resistance}}$.

This is our economic equilibrium, or what, for purposes of measurement, we may call economic unity.

So far, what has been sketched is a general picture of our economic situation; but within this assumed equilibrium, as Jevons puts it, we pull, push, lift, press and carry; and it should be apparent that the value of these interior efforts can only be measured in terms of the equilibrium. When we lift a weight from the earth we also lift the whole earth a little at the same time; since we have upset a balance which both the weight and the earth promptly make an effort to adjust. In the same way, when we exert an advantageous effort in our assumed economic equilibrium, the whole sum of national wealth is properly involved until the disturbance is adjusted.

Now, for the sake of the simple mathematics involved, let us consider the dimensions of our national economic unit. We must enlarge our raft to an area of 1,903,215,360 acres and our crew to well over 100 million souls—all more or less conscious that while above them there may be quieter reaches, yet below them, without any question, are the rapids. The effort of this crew has put our gigantic economic raft in the position where it now floats quietly on the stream of adversity. The value of this vantage point is our true national wealth. That we employ the Bureau of the Census to tally this wealth, or value, item by item, in terms of an unknown number of ounces of gold, owned by someone else, is just our primitive way of doing things. MacArthur and Forrest perfect the cyanide process, or a busy Secretary of the Treasury issues twenty or thirty billion imaginary titles to gold,—and all our silly calculations are upset.

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The scientist, on the other hand, knowing the diameter of the earth, measures off a definite volume of water; and the pull of the mass of the earth on this detached unit he calls a pound. He does not care whether this is a gold pound or a putty pound if its movement disturbs our equilibrium to the same degree.

Value = $\frac{\text{Effort}}{\text{Resistance}}$. This is all we *know* in economics; but it is quite enough to lay the foundation for the just measurement of any effort exerted within the equilibrium of an economic field whose ultimate dimensions we can state in mathematical terms.

In economics, we employ an arbitrary "measure of value" as a "medium of exchange." From a scientific standpoint, our "medium of exchange"—the equilibrium of the time and area in which we exert effort—is our only possible "measure of value." To employ anything more, or anything less, is to set the stage deliberately for the tragedies of trial and error, which we call "economic cycles."

It may be unnecessary to state the economic situation again in general terms; but what we must try to realize is that, with the initiation of democracy, there was established a rational basis for economic science. Logical and spontaneous reactions, for the first time, could be counted upon, and these became measurable because they took place within cleanly-defined limits. From that point forward, we had definite factors to deal with. The constant dynamic force is due to the *need* of man for the bare essentials of bodily freedom and his *desire* for a growing amplification of that freedom. This force is in direct proportion to population in a self-attained democracy. Our one fixed limit is foothold and one of our conventional measures of effort is *time*. With freedom of spontaneous effort provided for, within fixed limits, we have at hand the essentials of dynamics. Exchange of immediate service for past, present or future service is made possible: the free flow and counterflow of effort which democracy desired, and vainly thought to have attained. It failed for one main reason, namely, there was no realization that the true value of impulse

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or effort may be measured scientifically without checking that effort. We do not stop the earth at noon with a bump to measure time, nor do we check the flow of a stream to measure its quantity.¹ Only human effort is approximated by checking it. As long as boundaries were ill-defined, and isolated strongholds of arbitrary economic power were permitted to stand, no system of measurement was possible but an arbitrary one, such as that based upon the gold-standard. We have now defined our political boundaries and also defined our individual rights, thus opening the way for the elimination of arbitrary power: but, still obsessed by the deep-rooted delusion that there is some power we can neither trust nor control, we have failed to abandon arbitrary measurement.

Because of the mental fatigue induced by the very word "economics" it seems advisable to break down, rather rudely, certain misconceptions and drive home a rational conception by analogy, but even in employing the analogical method we have again to outrage the political-economist by ignoring Robinson Crusoe. Crusoe did not know the size of his island, and did not treat Friday as an equal. Because of this he did not occupy an area of comprehensive economic value. He is little use to us.

The question "How do you propose to remedy matters?" is a perfectly fair one, but a very dangerous one for a diagnostician to attempt to answer as briefly. The farm-adviser may tell the poultryman that it would have been wiser to put his eggs in an incubator, instead of in boiling water. The poultryman, in turn, can apparently prove that the farm-adviser is quite wrong by taking the eggs out of the boiling water and putting them in an incubator as suggested, or stump him by handing the hard-boiled eggs over for treatment. If he is to prove his case, there must be a more imaginative poultryman to deal with, or some new-laid eggs. Until one of these conditions is complied with, it is almost impossible for the expert to prove briefly that the incubator is any better than the boiling water.

It has been urged in the foregoing essays that our economic

¹ Compare page 159.

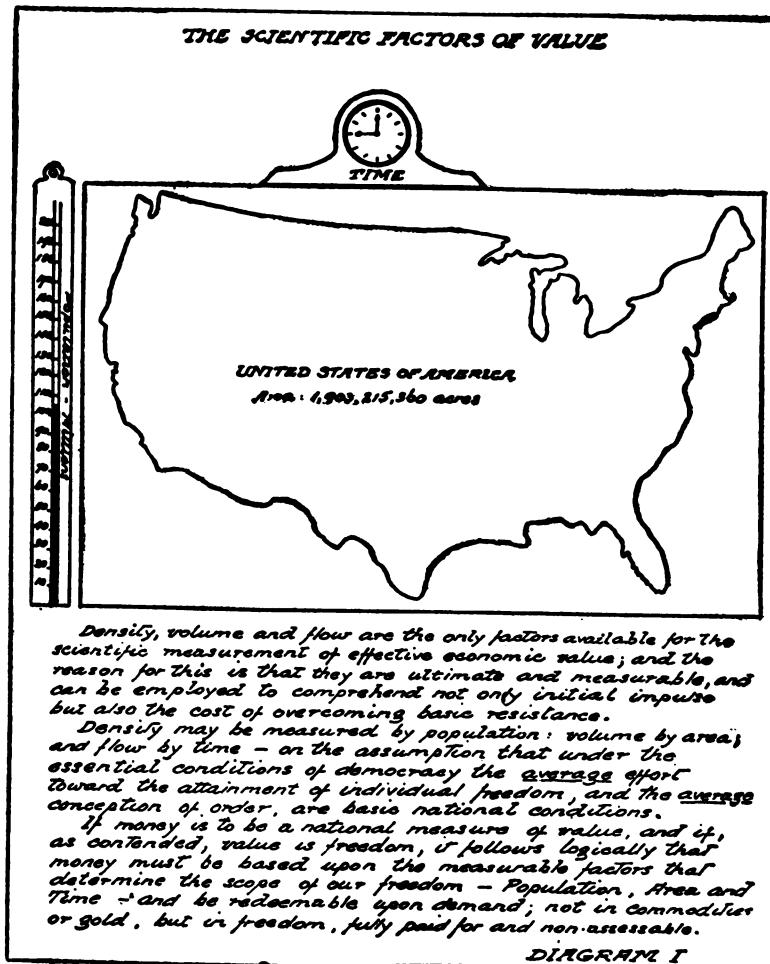
resultants, no matter how carefully calculated, are unsatisfactory, because at some vital point our method has been completely unsound—as unsound as the attempt to hatch eggs in boiling water! The unanswerable criticism of our present economic method is that we are pretending to measure justly with a variable unit of measurement. The faultiness of the unit is admitted, either tacitly or openly, by every intelligent economic observer, most of whom take for granted that it cannot be bettered. It is now definitely contended, however, that this surrender to sheer confusion is not justified, since the essential components of a scientific unit of economic measurement became immediately available with the institution of that system of self-government which we call democracy, and, though never utilized, have been available ever since.

It has been very fully contended in the foregoing essays that *Land-area*, *Population* and *Time*, under orderly self-government, are the basic factors of economic value; and that the fundamental importance of these dimensions rests upon two elementary qualifications: first, they are comprehensive and ultimate; second, they are measureable. These two vital considerations establish, from a scientific standpoint, their validity for the purposes of measuring total basic national value and consequently all fractional values in terms of this total.

If it is conceded that freedom, maintained by self-imposed order, is the logical goal of democracy, then the basic economic value of any comprehensive area under such conditions depends upon the total population within that area: the basic value of any definite subdivision or fraction of that total area depends upon the proportion of the whole population which moves into that subdivision; and, consequently, the true economic value of any service or any commodity within the total area may be measured scientifically by the *area of land, as enriched by population, and made representative of net value by the payment of taxes*, which the legal owner is willing to place in jeopardy for such service or commodity. Such a measurement of the value of goods or services in terms of total basic value is far more logical than a promise to pay for them in gold, which may not be anywhere procurable when de-

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manded, and the actual value of the tokens of which, in terms of goods and services, may vary as much as 50 per cent during the life of many of the normal transactions involved in modern society.



If such a conception of measuring interior or partial values in terms of total value seems vague, let us forget economics for a moment, and imagine that we are faced with the problem of measuring the fertility-value of various subdivisions of a definite area of reclaimed land before the coming crop is

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planted. Let us assume that we have data in hand by which we know that this fertility-value is normally in proportion to the number of acre-feet of water we can hold for a certain length of time upon a definite area. Granted that we know the amount of water we have available in our reservoir, the problem, as a matter of fact, can be solved by a surveyor with a few simple instruments of measurement; but if we want an actual picture of our values in terms of fertility, all we have to do is to throw a dike around this area and flood it with our available water. The total fertility-value of the land can be measured by the total amount of water available: the value of fractional areas can be measured by the amount of water which is delivered to these areas, and the minus value of the remaining projections can be measured by the areas which are visible above the water table. *But, however these fractional values vary, the sum of them must always be equal to the total number of acre-feet.* In the same way, population, under democracy, will justly measure the basic value of total area, and local population-density will measure the proportional value of any fractional area.

Such a conception as this does not assume any unmeasurable or arbitrary "value" such as those delirious conceptions which would measure area by its "richness" or its "social utility" in terms of our fluctuating dollar: on the contrary, it simply takes into our reckoning the fact that with the achievement of democracy certain closely-guarded areas of value, controlled by individuals, came politically under community control and should properly have been merged in the whole economic system by the imposition of pro rata responsibility. This change, together with the fact that we provided politically for freedom of individual movement, made the whole national area subject to the same scientific law which governs dynamic value of any kind, namely, that such value is a measurable modification of the equilibrium in which it is exerted. The continuation of an arbitrary system of taxation, based on need and activity, and the maintenance of a gold-standard of value, with no attempt to take production and ownership of gold out of private or alien hands, thus controlling its quantity, left strongholds of im-

perialism in the center of our national domain. The *royalties* exacted from effort by taxation and the *royalty* of privately owned gold are exactly as arbitrary when they rest on legislative whim as when they rested upon "Divine-right."

What is here proposed is to make taxation impersonal; and to put gold back upon the basis of all other commodities, and let it be valued by demand, the validity of which can be measured by means of an unimpairable unit based upon the same fundamental and ultimate factors that limit total basic economic value. Some conception of this clearly underlies the logic of the more imaginative economists whose apologies for employing empirical methods might be comprehended in the composite phrase, "But, of course, we realize that fundamentally value arises from the labor of man applied to land over a given period." In many cases they appear to have been bewildered by their self-imposed obligation to maintain an unbroken sequence of logic through autocracy and into democracy. They do not seem to realize that in economics there cannot be any logical continuity of argument from autocracy into democracy, any more than the behavior of a complete solution can be predicated upon the behavior of a solvent which contains crystals still undissolved. To carry on into democracy an arbitrary system of measuring value, which was initiated during autocracy for the maintenance of conceded privilege, is the cause of most of our confusion, and is as illogical as though a miner were to discover a vein in Archean granite and attempt to follow this through some terrific dislocation into the adjacent but unrelated sedimentaries of thousands of years later. If he finds a vein which looks similar, or if he persuades himself that it must be similar, he is very much to be pitied, since all his logic, based upon precedent, is totally misleading. He may be a skilful and conscientious miner, but if, at this juncture, he does not turn to the geologist and rearrange his conception he faces endless confusion.

And yet, even if it is conceded that these three cleanly measurable economic dimensions, *Land-area*, *Population* and *Time*, do, in fact, completely comprehend all human energy, as expressed in the medium of space and matter, their practical

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importance as factors of economic measurement is still likely to be ignored, even by those who realize most keenly our present confusion and its intolerable cost. The measurable limits of total available energy may seem to be considerations very far removed from the realm of utility, as many an engineer has discovered in discussing with a *practical* farmer the area which he can wisely plant to rice or alfalfa—crops which require a definite number of acre-feet of water per annum; or even in discussing with him the more obvious problems of the height of his dam or the slope and cross-section of his ditch. If you ask him whether he has measured the average annual width, depth and velocity of the stream which is to supply his reservoir, he will regard you, unless he has been technically educated, with the same contempt that a certain type of banker reserves for the economist who questions the so-called gold standard. Similarly, if you should suggest to the frontiersman that the size of his over-shot wheel and the capacity of his grist-mill should be determined by the average annual cross-section and velocity of his mountain stream, and not by the appetite of his family, or the dimensions of the wheel his father used in the old-country, which he observed with awe as a youngster, he will also grow restive. To the farmer the immediate practical task is the seeding of his levelled acres, the building of an *ample* dam and the excavation of an *ample* ditch; and to the frontiersman the task appears to be the fashioning of just such a wheel as his father used. They realize no limitations except their immediate needs, and they go calmly ahead, governed at the outset by tradition, and in the end by the cost of trial and error.

Now, in such cases as are cited above, the cost of trial and error does not gravely affect any one except the individuals concerned, but in the realm of applied economics the situation is much more serious, since in our closely organized society any adjustment we make has possible consequences in personal misery and tragedy which cannot be rectified when the error is discovered. We blunder along blindly with our primitive currency and ruthless taxation, depending upon vague and outworn tradition, or guided, too late, by the cost of our trials and errors.

CHAPTER V

OUR UNPLEASANT ALTERNATIVES

UNDER the conditions already indicated we are faced logically as a nation, with one of three fairly definite alternatives. The alternative we choose will depend very largely upon our national reaction to intolerable pressure, as we grow fully aware of it. The three channels open to us are:—

First, Economic bondage to the holders of our newly created "gold-dollar."

Second, Repudiation of our so-called gold-dollar by revolution.

Third, Partial repudiation (or dilution) of our so-called gold-dollar by legislative process.

Under the first alternative, if as a nation we are capable of taking pressure as meekly as is hoped, and urged in the name of thrift, by those who now stand unharmed after our cyclone of inflation and deflation, we shall settle down for from twenty to fifty years of patient and truly exemplary service to our newly created aristocracy. This is most unlikely. However thankless the task of waking a dreamer to realities, these innocent advocates of the virtues of resignation and meekness should be told at once that what they dream will not come true.

The second avenue we may follow, namely, the repudiation of our so-called gold-dollars by revolution, will only be taken if our reaction to pressure is violent. If our natural good sense has been too dangerously diluted by the past flood of unscrutinized immigrants with their prejudice against order, it is possible that as a nation we may rise up, and without much nicety, smash title to all property—either gold which does not

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exist, or to real property which does exist. This, however, is also unlikely since the education that comes from ownership of property (in spite of the unequally distributed tax-burden that rests upon it) will cause us to realize that we are all dependent upon our closely interwoven social structure.

The third avenue we may take is repudiation of onerous obligations by lurching and unmeasured inflation; that is, we shall attempt, by special and unrelated legislation, to deal with each symptom which harms some politically well-organized group more for a moment than the other symptoms hurt the rest of us. The anxious politician, fearful of losing votes, will irreverently ignore the refrain "Deflate and ye shall be saved." Behind our political tactics in dodging possible revolution by inflation, we shall find much of the impetus of war, and many of its evil effects. Salvation will be arranged for in terms of dollars, and denied in terms of goods. A new temporary aristocracy will emerge from the confusion following this maneuver, but it cannot look for secure tenure, owing to the need of the demagogue for a daily victim to throw to the wolves.

This modern method of meeting pressure is the one most likely to be employed, unless in the interval we take some conscious steps in the direction of making our unit of value representative of value. Repudiation, by legislative process, of the domination of the so-called gold-dollar will be doggedly fought against, not only by such financial interests as find themselves, for the time being, in a position of control, but also by all who have taken so-called "gold" dollars for their goods and real property, with a belief that "deflation" was really a gentlemen's agreement and the order of the day. These linked interests will have an army of zealous supporters,—small landlords who live upon their rents, retired workers who are depending upon modest investments, the retail buyer of bonds, and a host of others who will be driven into the present financial strongholds by snobbishness, by self-interest, or by sheer dependency on their financial betters. In addition to these there will be many thoughtful economists who see clearly that the apparent prosperity which follows this type of inflation is not

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sound, and who realize that its misguided advocates are crying proudly every few days, "The dollar is dead. Long live the dollar!"

If we could comprehend that without any means of economic measurement society must continue as a closely-locked conflict for a pitifully insecure foothold, there might come a realization that the only hope of peace and progress is to provide some sound footing for those who want, not only security, but the further right to exercise their talents in production, instead of facing the necessity of continually changing front to meet bewildering threats from unexpected quarters. This sound footing, of which we dream, is only obtainable by devising a means of making effective economic value apparent and susceptible of measurement, and then coupling the control of this value with its complementary responsibility. If such a moment of realization does come, it may be possible to gain some attention for a diagnosis based upon symptoms, even if this diagnosis appears very cold-blooded to the ardent reformer, and very visionary to the conservative who has come to regard the status quo as desirable. The danger, even at the point where it is realized that something is wrong, is that not a diagnosis will be asked for but some painless remedy. If the logical remedy is not painless, or if it appears superficially to be of the same nature as something that has been tried before, or if it is only partially accepted, then the diagnosis upon which the remedy was based is likely to be discredited, and the net result will be a postponement, rather than a hastening, of well-being and order. Far more important than any remedy is a general appreciation of the fact that if our certified token of value diminishes in effectiveness, then effort also diminishes, whether consciously or unconsciously. Sabotage is inherent in our present unit; and it is not surprising that we find it elsewhere.

CHAPTER VI

ARBITRARIES AND EQUITIES

GOLD, the basis of our present empirical currency, can be hoarded by the foolish or exported by the well-informed, and as a consequence the supply can be diminished by individual action. We are informed later. This private reduction of supply affects our so-called "value," particularly those vital estimates of value expressed in our currency and credit instruments. It also affects our whole illogical basis of value,¹ since the less well-informed holders of so-called gold currency, or other contracts to pay in gold, are left helpless and in the shadow of panic. All gold-standard governments, not excepting the United States,² are technically bankrupt in terms of gold, and yet the more lowly citizen creditor finds in a crisis that some of the elementary equities of insolvency are not observed, since a few of the more powerful creditors who are often aliens have been able to collect their accounts in full, even though the fact of insolvency was common knowledge. This

¹ Since there is no *normal* value for a so-called gold dollar, it would be fair to argue that deflation and inflation are purely comparative terms. If imports of gold lead to inflation then exports should lead to deflation. However, as there is some question upon this point, let us consult the most conservative authorities available.

"Moreover, our gold reserves are so large that a continuation of the stream of gold imports might lead to a period of inflation. Rather than permit this we should, and eventually must, submit to the exportation of a part of our gold holdings. . . ."—*The Guaranty Survey*, March 27, 1922, page 2. Published by The Guaranty Trust Company of New York.

"As an answer to the argument that the importations of gold make for inflation, it is to be said that it would be most unwise to build a great fabric of credit on a temporary foundation. If this influx of gold should put prices up, by the same logic an efflux of it would put them down."—*National City Bank Bulletin*, October, 1922, page 11. Published by the National City Bank, New York.

Listening as a rather nervous bystander to this exchange of batteries, it would appear that the *Guaranty Survey* scores in logic, and the National City Bank in patriotism. The argument of the *Guaranty Survey* is not answered; but it should be shamed into silence. Has the wisdom of democracies been overlooked?

* See pages 123-5.

is not a purely hypothetical assumption, however logical. Within the year 1921, in Australia, where the currency is a definite contract to pay in gold, citizens holding funds in London were able to obtain an undue premium for these funds as compared with their "redeemable" gold currency. The whole French nation is nursing a legitimate grievance against the government of Germany because much of the gold supply of the wealthy citizen has already been deposited in New York to escape government control: the German peasant, whose loyalty was really loyal, and who has taken paper marks for his eggs and chickens, has a grievance against his more powerful fellow-citizen who has shipped his gold to New York; and if he thinks seriously about it the lowly French citizen has the same grievance against his wealthy fellow-countryman. The better-informed creditors all have funds in New York, and as a final absurdity we, in the United States, think of these funds, which are subject to recall, as being part of the stock of gold available for the redemption of our paper.³

But, more than this, the supply of gold can not only be diminished by hoarding or exportation; it can be apparently increased by importation, or actually increased by production at a cost which is below its value;⁴ and both these things have the effect of contracting its value by increasing the supply,⁵ and of contracting all other values by expanding the volume of the swaying pyramid of credit and currency, which rests magnificently—even if somewhat insecurely—upon its gold apex.

³ Compare the following: "During the last three years this inflation has brought great industrial activity to the German people. The wealth which they have accumulated has been stored as far as possible in other countries and, therefore, cannot be reached by the Reparations Commission" and "Once the total amount of the reparations obligation is fixed at a sum which the world believes Germany can pay, and the uncertainty of the future burden is removed, her people will be able to bring back the capital they have exported, without fear of its confiscation, to use it for the promotion of a greater industrial nation."—*The Guaranty Survey*, July 31, 1922. Guaranty Trust Company of New York.

⁴ See the Prospectus of any gold mining company.

⁵ Compare the following: "In so far as the supply of gold presented any problem prior to the war, it was one of over-abundance with a tendency toward depreciation, instead of scarcity."—*National City Bank Bulletin*, April, 1922. The National City Bank, New York.

Census-area, on the other hand, can neither be hoarded or exported so as to impair our measurement of available supply; nor can it be unexpectedly produced at a cost which is less than its value to the community.

Owing to the use of a fluctuating unit of value, nominally based upon gold, we have been in trouble: the dates of our economic crises have their place in history. What we now have to face is an unprecedented volume of impossible promises to pay in gold; and while we have avoided the disaster of panic, we have not avoided its long-drawn-out and smothered effects. If we continue to be loyal to the gold-standard tradition, and acquiesce in any policy of deflation designed to make these obligations worth what we used to call dollars, we are entering upon a period of economic servitude that will last beyond our lifetime; and it is this prospect that our deflationists are holding out to us.

What are we going to do consciously to meet this difficulty? If we meet it unconsciously we may for a while acquiesce meekly in a process which silently doubles our actual obligations, in terms of goods and services: we may revolt suddenly and smash everything in sight; or we may look forward to aimless inflation through such mediums as price-fixing, ship subsidies, import taxes, pensions, exemptions, sales-taxes, etc., which will mean a steady increase in prices and unavoidable increases in wages to hold off revolutionary protest. In effect this will mean that our government will be forced into a more or less blind and creeping policy of repudiation of the so-called gold-dollar, which will result not only in the dilution of present fortunes but in the appropriation of present savings. As stated before, neither resignation nor revolution is likely to ensue: inflation is all we can expect, but there is something to be gained by the supervision of this in an attempt to protect the weaker victims.

Is there any sane program which can be put forward to anticipate in some measure our ensuing era of inflation, and connect, once for all, our nominal and fictitious value with actual scientific and unimpairable value, or in terms of the diagnosis put forward, connect so-called gold-dollar value at

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some definite point with basic census-area value, so that there may be no further inflation except with measurable increase of population or area?

Now this is not an easy problem, for the moment of change is going to be displeasing to some, no matter what moment we decide upon. If we are prepared to admit that our present empirical method of economic measurement is on an entirely different basis from any other scientific attempt to measure dynamic value; and if, in the abstract, we are willing to admit mentally that some plan, more rational, should be devised if possible, we then face the very difficult problem of converting arbitrary "value," which is only good at a given moment into true, or measurable, value. This involves two acts: one rational; the other arbitrary. The rational act is the devising of the unit which involves a just conception of basic national economic value: the other, the arbitrary act, even though we hope it may be the last, is our choice as to the moment of conversion. We may look back at our vanishing gold coinage for an example of this, for it is well known that the last innocent holder of a worn gold coin suffers the loss due to wear and tear over a long period of use in which he was in no way involved. The major equity imposed by the duty of keeping the *weight* of the coinage uniform, under our present system, involves us in a palpable inequity at the moment of readjustment. In the same way, if for the sake of general equity we decide to convert our so-called gold-standard of value into a scientific census-area standard of value, an arbitrary point has to be chosen. Essentially the problem is very similar to that which governs a sailor who is deciding at what point to make his jump from a storm-tossed raft to a wharf. He knows that the wharf is safer than the raft, but the change requires judgment as well as courage. It is not wise to await the moment of sheer desperation. There is no element of judgment in desperation.

Shall we make our conversion at the peak "value" levels of 1919 or the depression "value" levels of 1921? If gold itself had any scientific relationship to value, the question would not arise: there is no problem involved in converting gallons into

litres or pounds into kilograms, since all these rest upon ultimate measurable components; but because gold-standard "values" are tied to nothing either comprehensive or measurable, we can only make an arbitrary conversion. It became necessary within our own memory to do away with the bushel as a standard of value, and this equity was not accomplished without raising a cry of injustice. The day that a bushel of oats was declared to be 32 lbs., and was thrown into just relationship with the solar system, a great many farmers were benefited who were accustomed to thresh their oats when they were in good condition: on the other hand a great many were injured who were careless about their seed and harvesting, and whose product was coarse and bulky. For this reason any remedy can only be stated in general terms. We may all agree that the bushel is an absurd measure of value; but the farmer with the sound dry oats will maintain that the legalized bushel should be 38 pounds, while the farmer with the coarse and bulky oats will contend that it should be 26 pounds. If we compromise (as we did, when we made the bushel 32 pounds), we cannot avoid offending and momentarily injuring them both for the sake of the greater advantage of creating general confidence. These opposed objections to the creation of a valid standard are the greatest barrier in the way of any conversion of arbitrariness into equities. As we can see from history, it is a difficulty so serious, so almost insurmountable, that many of our problems dealing with conventional arbitrariness have been settled by mortal combat instead of reason. This method, however, because of the chaos involved, usually converted ancient arbitrariness into modern arbitrariness—the equities being entirely forgotten in the heat of conflict.

CHAPTER VII

THE PROBLEMS OF CONVERSION

THE diagnosis of our ailment, based upon very painful symptoms, having been indicated, it should fall properly to the incumbent practitioner, or politician, aided by all the expert talent he can command, to see if a rational remedy can be arranged for. The first difficulty that arises here is that our practitioner is one of the beneficiaries of our present disintegration, which he quite honestly fails to recognize. Without any sense of disloyalty, his whole inclination is to think that his patient is getting along fairly well because of the last remedy administered. He is likely with complete professional honesty, and some contempt, to dismiss the diagnosis as far too abstract for practical consideration, and any basic remedy predicated upon it as correspondingly useless or dangerous. If this attitude is maintained, as is likely, democracy will get much sicker before it commences to get any better. In the interval, in its extremity, bewildered victims of our present system will turn from the old-fashioned gold-fearing practitioner, to the new-fashioned quack, who fears nothing whatever, and who is no more bound by limitations than an inventor of perpetual motion. If we refuse to attempt to measure unimpairable economic value and base our currency upon that, we shall be urged to base it on silver, which is logically similar to gold, but is disliked by the gold advocate because it makes him look a little foolish:¹ we shall be urged to base it on *land-value* which

¹ "Recent proposals from various sources to extend credit on unsound bases and recent questioning by some of the necessity of maintaining the gold standard for our monetary system offer increasing evidence of the urgent need for a sustained and wide-spread effort to inform the public in the fundamental principles of *finance*. An informed public opinion constitutes the only protection of a democracy against distorted economic doctrines, which are brought forward so persistently. Fortunately, as was proved during the 'free silver' campaign more than a quarter of a century ago, the American public does respond to well-directed educa-

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varies according to the temper of our appraisers; and we shall be urged to base it on paper backed by good-faith, or on paper backed by whimsical taxing power, or on paper backed by need, or our faculty to consume. If deflation such as is dreamed of by the holders of so-called gold obligations should be effected for any extended period we cannot avoid these supposed remedies, which are similar to the administration of stimulants to a dying man for the sake of a final flare. Only the impending dissolution of society, if sufficiently obvious, will force genuine deliberation by all those who now enjoy a false sense of security; and it is in anticipation of some such receptive state of mind that suggestions for a basic readjustment to conform to democracy have been put forward for consideration and amendment.

If we are prepared to adopt a scientific unit of value, the next question is the fairest and soundest basis of conversion. We know our population and area accurately at short intervals, but our dollar values are tossing as badly as the sailor's raft, already mentioned (which we propose to nominate as a substitute for Crusoe's island in economic discussion). We may have the courage to jump: where shall we conjure up the necessary judgment? The answer to this question is that we would have to select for the final arbitrary act, designed to eliminate the last undigested remnant of autocracy, a very competent board of experts—statisticians, engineers, economists and bankers—who after this final service in dealing with arbitrary national effort and has usually reached wise decisions when such crises have arisen.

"The *financial* future seems secure if these attacks upon our present efficient banking system can be warded off and if no departure from long established principles is made through unwise legislation. With its great wealth and productive powers, the United States is evidently now committed to a development of international financing similar to that long followed by Great Britain, a development which will not only aid in restoring Europe to economic health, but will also stimulate progress in Latin-America, the Orient, and many other parts of the world."—*The Guaranty Survey*, page 1. *Guaranty Survey Co., New York.*

The italics are inserted: it is only pertinent to point out that *finance* has no principles, since it is involved in international *policies*. It has very profitable traditions. The same pamphlet confirms this when it states (page 3): "The structure of finance is essentially international. . ." This is only a less disturbing way of saying that the structure of finance is, today, essentially imperial.

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value should be suitably rewarded and encouraged to go about their proper business.²

The personnel of this Board of Experts would be a matter for the gravest discussion and, as other details come under review, it may well appear advisable to draw upon additional talent, prejudice or experience. However made up, such a Conversion Committee would have several specific tasks which might quickly be accomplished if only in the past we had employed a stationary unit of value but which, because of the fluctuating nature of the so-called "gold" dollar, present some very complex problems.

Let us first take the major points which should be considered, and later deal with them in detail. They may be stated as follows:

(A) Consideration of the obligations in which we are now definitely involved, namely, Public Debt and current taxation, with a view to ascertaining whether these are not based upon an inescapable estimate of potential basic value to which we have all assented, and which we cannot ignore without gravely affecting both lender and borrower. These obligations are probably our most valid point of contact between old arbitrariness and possible equities, since they are the unconscious expression of basic economic value in terms of one of its vital components, namely order, the cost of which is taxation.

(B) Calculation of the total wealth of the United States in terms of the dollar.

(C) Calculation of the basic wealth of the United States in terms of census-area.

(D) Calculation of the equivalent of the so-called "gold" dollar in terms of the proposed census-area unit.

(E) Estimation of the net current value of liberated effort arising, under present conditions, from our basic wealth.

² It might also be advisable to include that new craftsman who is being trained and turned out with such inconceivable rapidity as a tax-expert by the Internal Revenue Department—the income-tax "sleuth" with his marvelously developed gift for unearthing conservatism and identifying it as fraud. If we can catch one of these at the green stage of sleuthing and another at the mellower stage of tax-experting, when the personal reaction to "value" is so different, we might be sure that no conceivable aspect of "value" has escaped us.

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(F) Consideration of the amount of currency necessary to meet adequately the requirements of our internal exchanges.

These appear to be the outstanding considerations involved in the modification of the illogical procedure under which we now exchange services, if we are to free effort from the friction of interposed checks and uncertainties, and certify value within national limits.

Let us now take these points in the foregoing order and consider them one by one.

CHAPTER VIII

THE CLEW TO VALUE

(A) Consideration of the obligations in which we are now definitely involved, namely, Public Debt and current taxation, with a view to ascertaining whether these are not based upon an inescapable estimate of potential basic value to which we have all assented, and which we cannot ignore without gravely affecting both lender and borrower. These obligations are probably our most valid point of contact between old arbitrariness and possible equities, since they are the unconscious expression of basic economic value in terms of one of its vital components, namely, order, the cost of which is taxation.

IT would appear that here, in all the confusion of fluctuating dollar values, we have arrived at an important clew. Our gold basis is purely imaginary: our wealth, in terms of so-called "gold" dollars, is a wavering projection into space: our per capita income is nearly twice what it was ten years ago in "gold" dollar value, yet about the same in purchasing power, which means, if stated coldly, that we have permitted a fifty per cent debasement of our unit of value and by this means have robbed the more innocent thrifty. But our obligations are what the gold-standard advocate calls *real*—the momentary reality of a nightmare! We have promised to meet them in ounces of gold. However rash the promises, we have all endorsed them, and they are expressed in terms of gold—so that they cannot be questioned even by the ritualist. This fact is as valid a material clew as the entrance fee to a spiritualistic séance, and is well worth consideration.

We are now under obligation to pay various public debts amounting approximately to the following:

Federal Government	23	billion	dollars	gold
States and other subdivisions ¹	7	"	"	"
Approximate total	30	"	"	"

For the sake of argument let us assume that the average redemption period of these obligations is twenty years. We have upon this very general assumption to pay off the total sum of 30 billion dollars, at the average rate of 1.5 billion per annum, in addition to our current tax obligations of approximately 5.352 billion ² per annum.

If these figures be taken as a basis, subject to correction, we can realize at any rate that we have committed ourselves to an estimate of a surplus earning capacity, in excess of our urgent personal needs, of approximately 6.85 billion dollars per annum. In other words we have more or less unconsciously credited the whole co-ordinated power-plant known as the United States with such capacity. Before now, for the sake of freedom, we have anticipated value and certified it in terms of "gold" dollars: let us do it again in terms of census-area dollars and get rid of the domination of the arbitrary autocracy of gold just as we have got rid of other autocracies. In effect we would say to those who own gold: "Your domination is ended. You may keep your gold with its so-called intrinsic value for which you have always contended." And to those who own land: "Your domination is acknowledged: with gold eliminated it is obvious—so obvious that we can see it and apportion your responsibility in terms of taxation. We are

¹ This figure is a projection, as late statistics are not available. The United States census showed such debts to be 1.8 billion in 1902 and 3.82 billion in 1913. Seven billion is probably an under-estimate. The latest statistics available from the Bureau of the Census (April 1, 1922) covering the gross obligations of cities with a population of over 50,000, give a total of \$3,956,036,000, with several cities not heard from. The obligations of all smaller cities, together with all Counties and States, must be added to this burden, so that 7 billion is probably all too small. Compare also estimate of tax-exempt securities. See footnote, page 243.

² "Income in the United States," page 19. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

This figure is shown as the total cost of government, but appears low. W. R. Ingalls estimates 7 billion. See *Mining and Metallurgy*, New York, April, 1922.

already mentally crediting your estate, owing to the tenants you control in virtue of your position as landlords, with a capacity to earn at least 6.85 billion dollars per annum for the next 20 years. On the basis of 5 per cent tax-paying capacity the earning-power can be capitalized at 137 billion dollars, less the present debt of 30 billion dollars which we have incurred on behalf of your individual sovereignty, and upon which we are now paying interest. On this basis there is due to you the sum of 107 billion dollars. It is not necessary for the most conservative of you to be alarmed over this revelation of value; for all we propose is to partially anticipate the inevitable dilution of the 'gold-dollar,' which, by previous experience, we know will take place in the next decade, under our present gold-standard system. This increase, at a normal rate, by 1930 will probably be at least 400 billion dollars. We propose to face this dilution of value deliberately, and avoid being taken unawares as usual, to the confusion of our more innocent citizens who have invested in bonds and life insurance, or who have foolishly put their money away in banks—only to find that the rate of interest is less than one quarter the depreciation,⁸ and the value of the capital is cut in half in a period of ten years. We now propose to certify to you the order-value of your holdings on condition that you will lend us the entire sum. After settling the obligations already incurred for your protection, we shall repay you the balance due, over a period of approximately 20 years at the rate of 10 billion dollars the first year, 9½ billion dollars the second year and so on, reducing the amount by \$500,000,000 every year till the total is paid off. So that there may be no doubt as to our good intentions we shall place the instruments which represent this validated credit in escrow with the United States Treasury—only—and this must be definitely borne in mind—we are also henceforward going to hold you responsible for a total annual tax bill of at least 10 billion dollars per annum, which we shall apportion to the Federal Government, and to all local subdivisions of Government, in a ratio based upon need instead of advantage. We propose henceforward to utilize this sum

⁸See page 130.

for the preservation of order and the increase of common facilities with a definite intention of grappling with the archaic problem of unemployment. If we require further sums—which seems unlikely at the moment—we shall propose that these be raised by taxation, subject to your approval as land owners."

It is inflation: but it is open, wilful and *final* inflation, based upon a full disclosure of the value of such order and foothold as we have, instead of being the creeping inflation from which we have suffered in the past, based upon very dubious political discretion; or the lurching inflation we now face, if revolution is to be avoided,—and it puts an end for all time to destructive deflation. If certain rational safeguards are taken, it is inflation which will bear least heavily on the wage-earner, and the more simple-minded long-term investor.

CHAPTER IX

OUR DOLLAR WEALTH

(B) Calculation of the total wealth of the United States in terms of the dollar.

WE must approach this problem rough-shod and risk a rupture with the statistician. The first brutal question is, what dollar are we going to employ? An American dollar, of course, as we look with great suspicion on any other national brand. But of what year?

The simplest thing to do would be to take the dollar of 1913; but this, at the outset, seems too much in the nature of prehistoric speculation. The dollar of 1913 is like a comet, once sighted, that has since swung off into a region of dark stars. Regardless of the sanguine calculations of the deflationists none of us really hopes to see it again.

For the sake of very excellent company, let us take the dollar of 1918, the year in which it was last sighted by the National Bureau of Economic Research, Incorporated,¹ since it has become a well-grounded convention in Economics that two surmises are better than one—particularly if we are permitted to split the difference.

The calculation of our wealth in terms of the dollar is not a novel one. It is attempted every ten years, by the Bureau of the Census—quite light-heartedly—for an error of a few thousand million “dollars” that have long since multiplied like rabbits makes no apparent difference to anyone.

It will be well along in the year 1923 before we get any new figures in terms of the up-to-date “gold” dollar which we are now trying painfully to adapt to the inelastic needs of our families; but we can probably project our values from the years

¹“Income in the United States.” Harcourt, Brace & Co., New York, 1921.

1900 and 1912 and land within the forthcoming totals. At any rate no one will ever know whether the bewildered verdict of the Bureau of the Census or the following projection is more accurate; and in the meantime we shall have some approximate figures upon which to base the more essential argument.

In the year 1900 the total wealth of the United States was estimated by the Bureau of the Census to be close to 88.52 billion dollars, and the population to be 76 million. In 1912 the population had increased to approximately 95.34 million, or 25.45 per cent. On the assumption that an increase in population is a direct factor in the production of new wealth, let us take for granted that our wealth would also have increased in the same ratio: this would give us an estimated total wealth of 111.05 billion dollars. But we have also to take into consideration that the "1912" dollar was only worth about $\frac{8}{10}$ of the "1900" dollar, based on the findings of the U. S. Department of Labor Statistics,² so that the sum thus arrived at would be properly expressed as 140.20 billion "1912" dollars. As a matter of record, the Bureau of the Census estimated it to be 187.74 billion "1912" dollars. The difference between our cautious estimate and the Census findings is 47.54 billion "1912" dollars which we can cheerfully credit to extra-effort. This, if divided equally between the 12 years, shows an apparent enhancement of surplus amounting to 3.96 billion "1912" dollars per annum, or 4.47 per cent of our 1900 capital which, as stated above, was 88.52 billion "1900" dollars.

To estimate what we are worth in terms of "1918" dollars let us project these very approximate figures. We start anew, at any rate, upon the comparatively firm basis of the Bureau of the Census' figures of total wealth for 1912, namely, 187.74 billion "1912" dollars. Our population in 1918 was 104.18 million, an increase of 8.84 million over the total of 95.34 million, or 9.27 per cent. Following the same procedure as before, we may increase our 1912 wealth by this factor, bringing our amended total up to 205.14 billion "1912" dollars. But the "1918" dollar was only $\frac{10}{11}$ of the value of the

²"Wholesale Prices 1890 to 1919," page 15. U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., 1921.

"1912" dollar,³ and if we employ this coefficient of expansion, we get a sum of 398.09 billion "1918" dollars.

As the National Bureau so neatly puts it, "We shall not indulge in any statistical finesse"⁴ but will assume further that our actual accumulation of new wealth has been only in the same ratio as before, namely, 4.47% of our 1912 capital of 187.74 billion "1912" dollars, so that we have to add an increment of 8.39 billion "1918" dollars per annum, making an addition for the 6 years of 50.34 billion. Adding this to our previous amount of 398.09 billion, we arrive at a grand total of 448.43 billion "1918" dollars. This is only a very crude estimate, and if it were attempted for the purpose of a final adjudication many modifying factors would have to be taken into consideration. The method of arriving at this total is unfortunately much more like dealing with yeast than with such data as are employed in normal scientific calculations, where stationary units of value are available. However, if our wealth is capable of advancing from 88.5 billion "dollars" in 1900 to 107.10 billion "dollars" in 1904, and on to 187.74 billion "dollars" in 1912, there is nothing except sheer embarrassment to prevent it being as much as 448.43 billion "dollars" in 1918. The ratio of increase is not much more exciting than the increase in National Income, which rose from 33.0 billion "1912" dollars in 1912 to 61.0 billion "1918" dollars in 1918.⁵ It seems highly probable, unless the "gold-standard" hawser is sharply jerked, to the confusion of all of us who are involved, that there is nothing to prevent us becoming as "rich" as the Russians or the Germans.

At any rate, we have in hand, for the moment, the imposing

³ "Wholesale Prices 1890 to 1919," page 15. U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., 1921.

⁴ "Income in the United States," page 64. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

"Statistical finesse" is as well deserving of immortality as "metaphysical nicety" and our present use of the word "redeemability." "Redeemability," as employed by the gold-standardist, means cleverly avoided demand; "metaphysical nicety," as Jevons pointed out, means lack of basic precision; and "statistical finesse" is a priceless euphemistic apology for mathematical "rough-stuff."

⁵ "Income in the United States," page 76. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

total of \$448,430,000,000 and we can use this as a basis for a purely hypothetical case. It is not an unreasonable sum since it means that our *gross* earnings in 1918 of 61 billion "1918" dollars, as calculated by the National Bureau of Economic Research,⁶ are only about 13.7 per cent, from which we have to deduct the total expenses of 104.18 million employees and retainers before we consider the question of a dividend. Let us take, then, our per capita wealth in terms of the "1918" dollar, as $\frac{448,430,000,000}{104,180,000}$, or \$4304.

We must not forget, however, that a large portion of this is capital, or stored effort, subject to depreciation or enhancement, being similar to reserves of water stored in a reservoir. One of the tasks of our Conversion Committee then would be to separate basic value from reserves. Definite figures are not available, but taking a general view of the figures assembled by Professor Seligman in his discussion of the Single Tax⁷ we may be justified in assuming, purely for the sake of argument, that 50% of this is personal property and equipment and the other 50% is the rental value of the land. On the basis of this assumption the per capita share in basic value may be taken as one-half, or \$2152, and the total sum of basic value as \$224,215,000,000.

This sum of 224,215 billion dollars we may take, then, as our real value in terms of which we can measure both larger and smaller values just as we estimate the density and volume of the sun, and the density and volume of a human hair in terms of our basic measurable realities—the density and volume of the earth.

⁶ "Income in the United States," page 76. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

⁷ "Essays in Taxation," Professor E. R. A. Seligman. 8th edition, pages 86-89. The Macmillan Co., New York, 1919.

CHAPTER X

OUR BASIC WEALTH

(C) Calculation of the basic wealth of the United States in terms of census-area.

HERE, for a moment, in an economic discussion, we are upon firm ground. There is no occasion to refer to index numbers, no need to project, and promptly apologize, and no need to refer to some other apologetic projection.

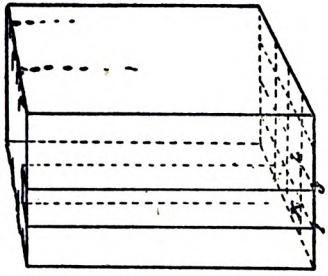
The problem before us is to ascertain our basic potential wealth in terms of population and acreage. These findings will determine the true per capita wealth—not in fluctuating dollars but in calculable population-density.

The area of the United States was 1,903,215,360 acres in 1918: the population in that year was 104,180,000 and the basic per capita wealth was roughly, therefore, 18 acres, thus giving us our true starting point in whole numbers, namely, the potentiality of one person upon 18 acres in free intercourse with the 104.18 million (minus one) persons, who were, directly or indirectly, involved in 18 acres apiece under a régime of orderly self-government. This was our basic wealth.

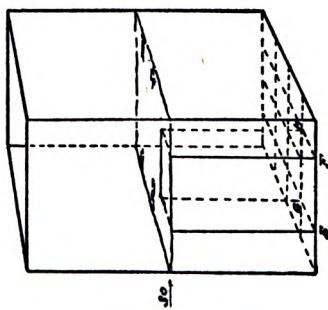
We shall have to leave to the Conversion Committee the task of modifying this total by including the area and population of our outlying possessions, and estimating their present wealth in terms of dollars. If we are to avoid economic imperialism they must be included since there is no economic barrier between their effort and ours.¹

¹ Except in the case of American Samoa, where we continue through altruism, stupidity, or pure forgetfulness to act as trustees, imposing a duty on American goods to protect the natives against our low standard of living, in spite of the fact that international fashions have quite changed and the bony legs of economic coercion are now boldly exposed beneath the scanty skirts of Mandate C, which, in modesty, was designed to cloak imperial operations such as those of New Zealand, in the adjoining islands taken over from Germany.

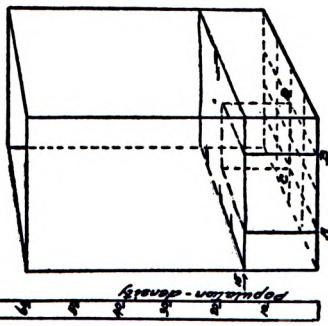
DIAGRAM ILLUSTRATING STATIC VALUE



JKL represents 1 acre
 Population = 50 per acre
 Static value of
 $JKL = 1 \times 50 = 50$ marcos



$ABCD$ represents 2 acres:
 Population = 50 per acre:
 Static value of
 $ABCD = 2 \times 50 = 100$ marcos



$ABCD$ represents 4 acres:
 Population = 10 per acre:
 Static value of
 $ABCD = 4 \times 10 = 40$ marcos

It is a scientific principle that to maintain constant potential value the area, (or basic component of this compound value), must be altered if the pressure is altered. For this reason a rigid unit, such as a definite quantity of gold or commodities bearing no mathematical relationship to basic conditions, cannot be employed to measure economic values within a given area, if population, or any other basic condition, should change, such as the conception or cost of labor. Paradoxically, the value of such a unit fluctuates because its weight is kept constant. Thus it requires justification for periodically altering the weight of a gold coin to keep its value constant — a proposal that strikes the gold standard, who does not think in terms of compound value, as being very much like altering the catalogue to keep us righteous; while to the scientist it is a belated adjustment for the sake of equity — not of accuracy — since value can be expressed much more precisely in terms of its ultimate, measurable and comprehensive limit.

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The further areas and populations to be dealt with by the Conversion Committee are as follows:

Country	Square Miles	Population
Alaska	590,884	55,036
Hawaii	6,449	255,912
Philippine Islands	115,026	10,350,640
Porto Rico	3,435	1,299,809
Guam	210	13,275
Panama Canal Zone	527	22,858
Virgin Islands	132	26,051
	<hr/>	<hr/>
	716,663	12,023,581 ²

This complication arises from our bewildered, and very reluctant, political imperialism in combination with an instinctive tendency toward economic imperialism on the part of a few, who think in more concrete terms than most of us, and carry the day both at home and in the outlying possessions. They know what they want, and with proper economic safeguards what they want is quite reasonable, namely, order, and freedom to conduct extended operations. What they get, under our present conflict of motives, is seldom advantageous to them or any one else. However, as long as these outlying possessions are within our economic borders, we must consider them.

² In addition to the population shown we must include 117,238 persons engaged abroad in military and naval duty, etc., making a total of 12,140,819, which must be added to the figures shown above.

CHAPTER XI

A BASIC DOLLAR

(D) Calculation of the equivalent of the so-called "gold" dollar in terms of the proposed census-area unit.

We have here for one starting point the fact that the basic per capita wealth of the United States in 1918 was the control of 18 acres: for the other, the momentary approximation of a per capita dollar wealth of 4304¹ "1918" dollars.

These figures, taken for what they are worth, show that the tangible value of one person per 18 acres, in orderly relationship with approximately 104.18 million persons per 1,903,215.360 acres, *enriched by all our present facilities, equipment and genius*, was \$4304 in 1918. This approximate result is, by now, post-mortem and badly decomposed, but that is the fault of the so-called "gold" dollar, not of our basic values. It expresses, only as of that date, the per capita wealth of the United States in terms of our drifting dollar.

Now if we are to do any measuring of value, we must follow scientific procedure and eliminate all possible factors that are not ultimate and measurable; for this reason we must be guided by the estimate that one half of this sum is privately owned capital subject to enhancement or decay, and that the other half, namely, 2152 dollars,² represents that occupancy-value of area which arises from the capitalized demand of a freely-moving population for advantageous foothold.

Getting down to simpler mathematical expressions, we have the following to consider: If for the sake of space we call the human unit "man," and take our average population-density as 1 man per 18 acres, then

¹ See page 283.

² See page 283.

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18 such acres = 2152 "1918" dollars
1 acre = $\frac{2152}{18}$ " " "
or, roughly, 120 " "

Reducing this still further, we have the following:

1 acre = 120 "1918" dollars.

Now 1 acre is 43,560 square feet, therefore:

43,560 sq. ft. = 120 "1918" dollars.

or one "1918" dollar = 363 sq. ft. of an average population-density of 1 man per 18 acres.

This means that, *at one definite moment*, the end of 1918, we had, as a dynamic reality, underlying our estimate of 224.215 billion basic dollars, 224,215,000,000 units of 363 square feet of an average population-density of 1 human being per 18 acres.

The validity of this result in terms of "1918" dollars rested not only upon the measurable facts of population and acreage but also upon such freedom as we have. It may be worth while digressing to point out again that this freedom rests in turn upon such order as we have. The maintenance of such order as we have rests upon government, and the maintenance of government rests upon taxation. It must not be forgotten, therefore, that the insurance of order, which we call *taxation*, the value resulting and the unit of value are integrally related.

After all, what we have been trying to arrive at is a measure of value—a valid datum, not a thing—which maintains its integrity with relation to the basic conditions of value. In other words we want a tangible measure which is relatively constant and in terms of which we can express value per hour. The gold-standardist says "impossible" without realizing that he is contesting a present actuality which is simply our vague appraisement of the same phenomenon, namely, the current flow of value measured by the disintegrating unit which we now employ. He measures this current value in terms of fractions of a cent *per hour*. It is the effective effort per hour bid for certified freedom, both being measured by the same bastard

unit of value. This he calls *interest*; and he is filled with very proper resentment when the equally blind reformer calls it usury. They are both wrong because the one imagines that a "thing" can beget value, and the other assumes that value is a "thing"—and is quite sure that "things" are sterile.

It is painfully slow trying to make progress through a morass of tradition, and it may be better to abandon further caution and propose, as a basis for discussion, a definite procedure for the establishment of a scientific measure of national economic value in a measurable area of freedom and order occupied by a measurable population. The steps suggested are as follows:

(I) Capitalize the present annual net occupancy-value of area—the measurable and unimpairable basis of economic value.

(II) Capitalize the value of order upon the basis of present total annual taxation—the basic condition of value.

(III) Add these two basic components of value (as expressed in terms of present currency) and award the total amount—power and responsibility—to the present owner of area in proportion to local population-density.

(These three steps determine total basic value in terms of existing currency, and enable us to place these two essential components of value in the hands of very sensitive and very competent trustees—the present owners of land.)

(IV) Determine present average population-density.

(V) Divide total national area by the sum arrived at in (III) to determine the size of the new basic dollar in terms of square feet of an *average* population-density.

While it may be a little disconcerting to the ritualist to think of a dollar in terms of a varying number of square feet bearing an inverse ratio to population, instead of a fixed number of grains of gold, it is much more scientific since we are dealing

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with a compound value, springing from the reciprocal relationship of area and population in a measurable zone of order.

Now to determine the dollar value of any particular area as a basis for *taxation*—the insurance of value; or as a basis for *money*—the measure of value, all that it is necessary to do is to multiply this area by a fraction representing the ratio between local population-density and average population-density.

This appears the only possible basis for a scientific unit of economic value under democracy. Our measure of basic value, *to remain constant in time* can only be expressed in terms of population and area. The unit based upon these components we may call a crown, a doubloon, a dollar or a dynar—it does not matter what we call it, as long as we cease to think childishly of measuring such compound *value* by 25.8 grains of gold which we find on demand are either not available or, if available, have no relation to our measurable data.

Only with our unit definitely tied to ultimate and measurable data can it be freed from erratic legislation or discreet manipulation, a *maximum possible volume* of such currency being limited by this data, and a *minimum issue* ensured by the fact that something real—that is, something limited in total quantity and valued in terms of population-density—has been placed in jeopardy.³ From a scientific point of view there is only one side to this argument. It is the pseudo-scientific economists, on the strong scent of heresy, who will give tongue.

If a change from tradition to science is within our political and intellectual scope, the internal currency of the United States might then read as follows :

"These notes are issued in acknowledgment of land-titles, lodged in the U. S. Treasury, valued in terms of population-density and guaranteed by a proportional obligation for the insurance of order. They are the only legal tender within the United States in payment of all taxes and other public dues, and in the discharge of all legal obligations between citizens of the United States. They are redeemable upon demand at every branch of the Internal Revenue Department by a receipt for current or future taxation."

³ See pages 308-9.

CHAPTER XII

THE NET VALUE OF FREEDOM

(E) Estimation of the net current value of liberated effort arising under present conditions from our basic wealth.

WHAT we have already arrived at is an expression of our total potentialities—the *continuous* effort toward freedom of our population, limited by area, with a full realization that the effective pressure of the population, and the economic quality of the political area (which in reality is the same thing), have been enhanced by the slow elimination of such obstacles as ignorance and bondage—physical, political and intellectual. There is no variable factor to be dealt with except increased population, and this can be measured. There has obviously been rearrangement of matter. Our rocks have broken down to clay, our clay has been made into bricks, and our bricks into houses which in turn preserve the health of our engineers and economists. Our engineers are being changed into economists and our economists into loyalists. It is all rearrangement, not all of which is profitable. Politically we have changed in that sealed areas of individual privilege have been broken down by revolution and resealed as soon as possible by the State Bureaus.

In considering the basic value of the pressure of population upon area in terms of dollars we have mentally reached the point at which, long ago, the scientist started in to devise a unit suitable for measuring what he called “work.” He was able to measure pressure per square inch, but, being practical, he realized that, before his calculations would carry him anywhere, he had to be able to measure the net effective value of that pressure when *released* under orderly conditions, and he promptly expressed it as the movement of one pound over a distance of one foot in one second,—the familiar foot-pound-

Note, *Diagram K*

The quantity-output of energy per unit of time being the same in each example shown, the area which controls the flow must vary inversely as population-density varies. It will be seen, then, that the only possible constant unit of value, with which to measure the economic reactions arising from population, area and time, must be a compound unit expressing in its constitution the reciprocal relationship between these three essential components as modified by the cost of order, or 1 tax-paid man-acre in perpetuity.

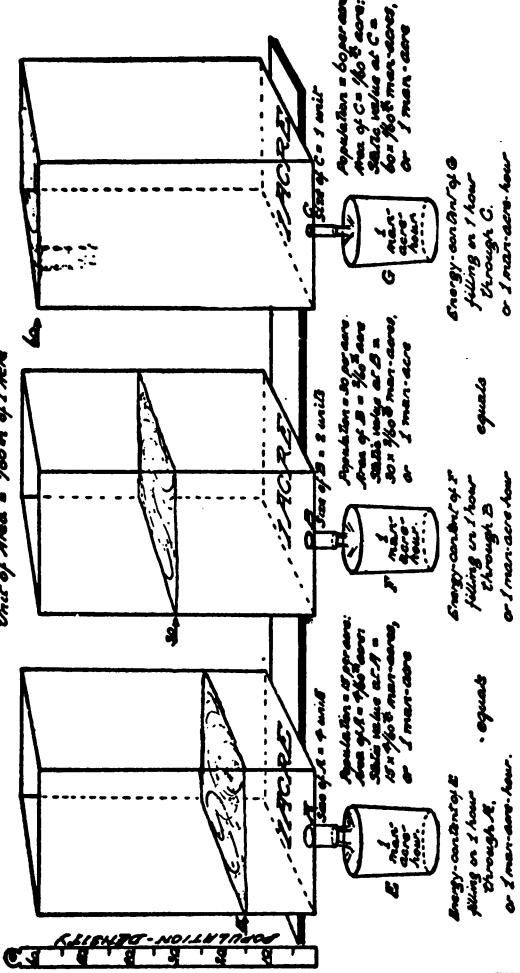
Since the hour is constant and the population-density varies in the ratio of 15:30:60, or 1:2:4, then to keep the *value* constant in our unit, the area component must vary inversely, that is, as 60:30:15, or 4:2:1.

If the more ritualistic economists should question the assertion that, under democracy, the only *measurable* components of economic value are population, area and time, as modified by the cost of order, they cannot, at any rate, question the scientific structure of the unit based upon this assertion. To turn the tables, and put them on the defensive, let us ask them to construct a valid scientific unit from their own economic elements—Land-value, Labor and Capital, measured in terms of gold, or Labor and Nature, measured Heaven knows how, or Labor alone,—and leave them to their hopeless problem.

It is a scientific absurdity to pretend that any unit of constant economic value can be expressed as the fixed weight of a commodity, even if this commodity is gold. If it is an admittedly unenforceable title to a fixed weight of gold, the absurdity is still more apparent, as we are further involved in the question of the value of the title as well as in the question of the value of the gold itself. The latter is a sufficient conundrum since the total quantity of gold is unknown and uncontrolled. Because gold can be privately produced and the national stock can be diminished by private action, it has no integral relation to value. The only value expressed by gold today is that of a major delusion; and this—like the exuberance, depression and panic to which, in turn, it gives rise—is purely psychological.

DILECTUM ILLUSTRE DOCUMENTA VITÆ

Unit of Area = km^2 or ha



The flow represented above is not a flow of population, but of the effort, or effective effort due to population. If the factor of time could be neglected, the total of the work done might be shown more conveniently by the total of movement of a given weight over a given distance. It should be obvious that a constant exertion of effort under a definite area has value; and while it is difficult to picture either time or effort on a diagram, one can imagine time as a bucket of one hour capacity. If we divide by five these hours and imagine dynamics under the three different conditions shown above, we find maximum output by means of A, B and C, which may inversely as population - density, and only in terms of which can be calculated the pro rata cost of increasing resistance. **DIGESTIVE**

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second,—or, thanks to our electric-light bills, the more familiar kilowatt-hour.

We are now concerned with the net current value of liberated effort from an economic standpoint—not for purposes of measurement, but to demonstrate, if possible, that there is something to measure; so that our problem is to study the results of our potential pressure when released for a new year of effort under orderly conditions, and try to measure what its duration is worth per hour in terms of our constant unit.

At this point it is only fair to acknowledge again with gratitude the work of the National Bureau of Economic Research, whose portentous findings, in spite of the disillusionment they promise, are still being taken calmly by an unsuspecting public.

The National Bureau shows that the per capita income of the United States in the year 1918 was 586 "1918" dollars. They add, "These figures do not include any allowance for the money value of the work done by housewives for their own families, an item which would add several billions to the money-total, if all housewives were paid on a commercial basis."¹

While we are still dealing with plastic data and generous estimates let us regretfully ignore the housewives, even though in the end we may find that our total dividend really belongs to them.

Now let us see if there is any possible check on our previous simple arithmetical projection of dollar wealth. We have the Bureau of the Census' estimate of our wealth in 1912 as 187.74 billion "1912" dollars. For the same year the National Bureau of Economic Research shows a national income of 33.0 billion "1912" dollars. This is a total yield of 17.5 per cent, gross, per annum.

Our rough projection of national wealth into terms of the "1918" dollar gave us a total of 448.43 billion "1918" dollars of the special brand vouched for by the Bureau of Labor Statistics. If we calculated our apparent earnings at the same rate, namely, 17.5 per cent, we get a total gross income of 78.47

¹ "Income in the United States," 1921. Vol. I, pages 143-44. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York.

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billion such dollars. But the Bureau of Labor "1918" dollar² differs from the National Bureau "1918" dollar³ as $\frac{157}{196}$, so that we must reduce our 78.47 billion Bureau of Labor dollars in this ratio, or inversely expand the 61 billion National Bureau dollars, if we want to make a comparison. Let us reduce our dollar as a tribute to the conservatism of the National Bureau. This will give us 62.85 billion "1918" National Bureau dollars to set against its own estimate of 61 billion similar dollars.

Comparing these two estimates we have the following, with a population of 104.18 million:

Per Capita Income

National Bureau Estimate.....	586 "dollars"
Estimate as above.....	603 "dollars"

There is a slight discrepancy, but we can proceed with confidence, since our figures are well within the 10% latitude which economists claim as their privilege. The result obtained, in dealing with anything as promiscuous as a so-called "stable gold dollar" is due to something more than art: it is sheer luck.

Now let us again firmly refuse to indulge in "statistical finesse" and split the difference between our estimate and that of the National Bureau. This gives us approximately 594 "1918" dollars (of the National Bureau brand) per capita, per annum.

We may proceed, then, for the sake of elucidation, to estimate the net current value now arising from the measurable potentialities represented by 363 square feet of a population-density of 1 man per 18 acres, our proposed scientific dollar.

What we have to start with is our compromise estimate of gross yield, amounting to 594 "1918 N.B." dollars per capita, per annum. If we are going to determine the net value of this effort, in terms of actual accomplishment, we should know what was consumed, and then take what is left over as net gain.

² "Wholesale Prices," page 15. U. S. Department of Labor, Bureau of Labor Statistics, Washington, D. C., 1921.

³ "Income in the United States," page 72. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

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We have no annual Profit and Loss Account and no Balance Sheet; but for the sake of the argument must make use of what we have, though there will undoubtedly be disconcerting amendments as further whimsicalities become apparent in our "unit of value."

What we may do is to take our estimate of wealth as projected from the findings of the Bureau of the Census, and utilize this (till we get more positive figures) to determine our average annual per capita gain in wealth. Incidentally we shall get some dubious light on per capita expenditure.

Let us assemble what data we have.

Estimated wealth 1918 ⁴	448.43	billion dollars
Stated wealth 1912 ⁵	187.74	" "
<hr/>		
Estimated gain (6 years)	260.69	" "
Gain per annum	43.45	" "

Assuming that our mean population during this period was 100 million, then the net per capita gain in wealth per annum would be in the neighborhood of \$434. This represents our savings.

Taking the annual per capita income as shown by the National Bureau, we have the following:⁶

1913	\$354
1914	335
1915	358
1916	446
1917	523
1918	586

Again assuming a mean population of 100 million, this gives us a roughly weighted average of \$440 per capita per annum.

This would mean that the "ideal" man had received \$440 per annum, saved \$434, and lived on 50 cents per month.

It is clear that there is something wrong either with our calculations or our unit. Let us start again, and try to

⁴Page 283.

⁵Page 281.

⁶"Income in the United States," page 68. National Bureau of Economic Research, Inc. Harcourt, Brace & Co., New York, 1921.

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avoid such a sudden rush of wealth and such a surprising reduction in the cost of living.

Have we any mathematical justification, in any calculation, for subtracting the dollar of one period from the dollar of another period? Have we, as a matter of elementary scientific honesty, any right to add, subtract, multiply or divide the dollars of two different days? We have not.⁷ We have no more right than an astronomer would have to multiply feet by metres indiscriminately and then identify his comet with the aid of astronomical finesse.

Let us make our calculations anew, then, in terms of the "1913" dollar, which was worth $\frac{196}{100}$ times the "1918" dollar. This gives us 228.79 billion "1913" dollars instead of 448.43 billion "1918" dollars, and on the basis of a ratio of $\frac{100}{101}$, gives us 185.88 billion "1913" dollars instead of 187.74 billion "1912" dollars.

Amended Calculation

Year 1918 Estimated wealth.....	228.79	billion	"1913"	dollars
Year 1912 Stated wealth.....	185.88	"	"	"

Estimated gain (6 years).....	42.91	"	"	"
or Gain per annum.....	7.15	"	"	"

Again taking the mean population of this 6 year period as 100 million we find that the visible accrued wealth per annum was 71.50 "1913" dollars per capita.

Now taking the final estimates (in terms of the "1913" dollar) as put forward by the National Bureau, we find that these are as follows:⁸

1913	\$354
1914	333
1915	350
1916	400
1917	396
1918	372

⁷The man in the street has recognized this long since in the famous phrase, "Lies, damned lies, and statistics."

⁸"Income in the United States," page 76. Harcourt, Brace & Co., New York, 1921.

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Again assuming a mean population of 100 million, this gives us roughly a weighted per capita income in terms of the "1913" dollar of \$371.50 per annum.

We get, then, the following:

Annual per capita income.....	371.50	"1913"	dollars
Annual per capita savings.....	71.50	"	"
Annual per capita outgo.....	300.00	"	"

It is perhaps safer not to dwell too long on these figures, since from a scientific standpoint the resultant of any calculation made in dollars is purely farcical, and has as little value as the quantitative analysis of a chemist whose children have mixed his gram and grain riders.

We solemnly charter accountants to deal with unchartered units. It would be funny if it were not for the tragedy involved. We could see the absurdity of licensing surveyors and giving them elastic tapes or granting certificates to public analysts and permitting them to use evaporating weights. We have left our economic unit of value too long to our economic betters; for it involves much more than acreage or acidity: it involves the destiny of simple human beings who have worked and deprived themselves in vain for the misguided hope of security in their old age.

For the sake of sanity let us move on—looking for the necessary amendments to the findings of the two Government Departments that are paid to do the work. The Bureau of Labor Statistics has already submitted figures showing the monthly disintegration of the "gold" dollar; and the Bureau of the Census will shortly furnish us with estimates of our average gain in "gold" dollar wealth since 1912. In the meantime let us reconvert our annual savings per capita into terms of the "1918" dollar, and proceed.

Annual Savings, per capita..... 71.50 "1913" dollars
or (as 196:100) 140 "1918" "

On this basis let us estimate the effective current value of a 1918 dollar:

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4304 "1918" dollars yield	140 "1918" dollars per year
or 1 " dollar yields	$\frac{140}{4304}$ "
or " "	" $\frac{140 \times 100}{4304}$ " cents
or " "	" 3.25 " "

Having already shown that 1 "1918" dollar is the equivalent of 363 square feet of an average population-density of 1 man per 18 acres, it may be interesting to realize that the value expressed by 3.25 cents would represent approximately title to 11.8 square feet of United States territory, which gives much greater dignity to $3\frac{1}{4}$ cents than its present pretense of being title to about three-quarters of a grain of practically non-existent gold.

The dollar side of these simple equations is so entirely aerial that all the calculations would have to be adjusted by our Conversion Committee. At the moment they do not mean much as far as precision is concerned, but their significance is very great with reference to the main argument. Whether we have "several billion" dollars out, or not, we can see that the effort men will bid for the certified freedom represented by the control of 363 square feet of U. S. territory is a much sounder indication of the fundamental value which underlies our currency and credit instruments than a rate of interest which can vary between 5 per cent and 125 per cent per annum, expressed in terms of $\frac{x}{448,300,000,000 \times 23.22}$ grains of gold, particularly when a large part of the unknown quantity x may be in Europe when most needed.

The foregoing calculations have been made to show that the flow of effort with which we are concerned has a net measurable *current* value, and that this value, if we know our area and population within a region of order, can only be finally measured in terms of *hours*. If the gold-standardist protests it will be purely because he is hypnotized by his ritual. He now measures value in the same way himself. The chief trouble with the gold-standardist is that he has been taking his own

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politico-economic homilies too seriously. He should be reminded that his bank, as trustee for accumulated money, measures the value of this money in the same way—not by its looks or its weight or by its convertibility into gold but by what it commands *per hour*, in the way of effective effort. It is measured, in short, by its rate of interest, and this, if stripped of legend, convention and the absurd stigma of usury, is simply the *hourly effort* men will exert, *over and above what is necessary for their sustenance*, in return for the certified freedom, or control of value, that other men will jeopardize. Whether we call it money or certified freedom it has, at any rate, a very definite rental value as we can see by the daily quotations in the money market. All that is novel in the foregoing argument is the contention that this value should be measured as precisely as possible before it is certified.

The apologetic explanation to the scientist for laboring an obvious point so long is that it is necessary to demonstrate to the layman (who is most involved, and least concerned) that the employment of our present so-called "gold" dollar as a measure of value is not only useless but is tragic. And apologies are quite properly due to the scientist, for it must be admitted that the calculations just made are futile. The dollar side of the equations means nothing until we elect the moment of conversion; and the estimated *yield* has no validity for several reasons, which may be stated as follows:

First. The yield we have been discussing is not only based upon so-called "gold" dollars, which have no more scientific meaning than "brass" kilowatts; but it has unfortunately no relation to the *net* product of current effort limited by area and time in a region of order, since it disregards a vital inverse factor, owing to our incalculable postponements of taxation, which will later be imposed upon those luckless producers of value who fall under the jaundiced eye of the "progressive"; and, still later, be imposed upon the more helpless thrifty who see the demand value of their tokens of value diluted by whimsical adjustments called "reform."

Second. What we have been dealing with as *net yield* is the product of a flow deplorably choked by arbitrary friction—

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indeed we are fortunate to have any net yield to discuss; for we have apparently accumulated much of it by defrauding the housewives⁹ who would probably have spent it on things that the Bureau of the Census might overlook; and,

Third. On the other hand, we must realize that much of the actual value created is either invisible or has *apparently* been consumed, and its ultimate fruition postponed. Highways, sanitation, education, esthetic enjoyment and other gratifications, which are the fruit of freedom and the instigation of new effort, are also economic value per hour,¹⁰ but are not reckoned as wealth by the Bureau of the Census.

The interesting question that still remains is the actual net hourly value of liberated effort under the type of order we prefer. This question, owing to our age-long statistical debauch, is impossible to answer at the moment. Such value, however, under what has been called "self-determination," should be as calculable as the number of second-feet of water flowing through a suitable conductor from a measurable reservoir; and this relative integrity is all we need to stimulate effort and validate freedom. The actual net value of freedom will gradually be disclosed by the rate of interest per hour, which is bid for a scientific token of net value; and this rate, in turn, will be determined by the true law of supply and demand, where potential supply is known and is coupled, *by measurable facilities of known cost*, with a demand in proportion to population. With the cost of order taken into our reckoning: with arbitrary friction eliminated and effort unobstructed: with the exchangers of effort no longer the victims of an erratic contraction in our present futile measure of value which we call inflation, or an erratic expansion which we call deflation—we shall undoubtedly find that the *current value*, which we call interest, offered for a scientific token of value will be apparently enhanced. Let us assume, purely for the sake of illustration, that equilibrium is presently established at six per cent per annum. Then the net current value measured by our

⁹ See page 294.

¹⁰ See pages 163-7.

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new dollar, bearing the same relation that the kilowatt-hour bears to hydraulic head, will be roughly $\frac{100 \text{ cents} \times 6}{8760 * \times 100} =$

$\frac{1}{1460}$ cents per hour. Some such sum as this, paltry as it may seem, is what we set out to find, and, philosophical as the statement may appear, this concrete sum is simply an expression of the net value of effort per hour, expressed in terms of unity in a definite region of freedom and order, under the law of effective flow, or what the economists call the law of supply and demand.

Summarizing all this for the sake of emphasis, it should be apparent, after taking into consideration population-density, area and the cost of overcoming basic resistance, that time is the final determining factor of value. We now recognize this instinctively by measuring the value of money in terms of interest *per annum*, and the value of order in terms of taxation *per annum*, even though the value of our so-called "gold" money fluctuates disastrously, and our taxation is imposed on effort, thus diminishing the very value we are trying to measure. Today we either jockey ourselves or, rather paternally, think it best to jockey others, into the belief that value rests most safely on gold. We should realize that what we now call economic value is thwarted freedom due to partial order; and unless we further delude ourselves, we must realize that such order as we have is largely paid for by those who benefit least, owing to the fact that we concern ourselves politically only with the most loudly protested symptoms of disorder; and still resent, most regally, any attempt to question the scientific bases of our archaic economic structure.

If, as contended, interest is a measure of the net current value of freedom per unit of time, then in the long run (if we do not grow weary of freedom), the rate of interest is bound to rise. Interest, today, is scientifically meaningless except as a measure of the arbitrary domination of a convention. The first effect of a full disclosure and certification of value would probably be a reduction in the rate of interest:

* There being 8,760 hours in the year.

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we would find that we had more freedom than we knew how to use. But as soon as all factors were taken into the reckoning and equilibrium established, we would undoubtedly see a steady rise in the rate of interest owing to the clearing away of the present obstructions between supply and demand. The contention of some of the economists that there can be no general rise in value is absurd: they have never thought of value in terms of resistance.

On the other hand, the layman's contention that interest is a vicious toll on effort is equally unjustified. If total national economic value is Effort multiplied by Conductivity (or $\frac{\text{Effort}}{\text{Resistance}}$), then all value which is unconsumed becomes either an *inducement* of new effort, or a *conducement* of current effort. If it is an inducement it has what the economists call "exchange value." If it is a *conducement* it has a daily "use value." If money were truly representative of all value, as it should be, then it would reflect both these qualities; and, naturally enough, we would get the phenomena of valid *capital* and valid *interest*. The reason some observers have been unable to reconcile these phenomena is that our present form of money is not representative of total national value, but is an unrelated arbitrary. It represents too much value, in which case we get high interest rates and a "panic"; or it represents too little value and we get low interest rates and a "boom."

CHAPTER XIII

THE VOLUME OF CURRENCY

(E) Consideration of the amount of currency necessary to adequately meet the requirements of our internal exchanges.

IN international trade the employment of gold is still logical because under international conditions, as they exist, it is best suited to serve as an approximate measure of momentary values, a convenient medium of exchange and the most acceptable basis for deferred payment—not because of any divinely appointed functions of gold other than its scarcity, density and general desirability. It is a logical transformer of human effort exerted under varying political conditions, because, internationally, we lack a common code of freedom and order. We still trade guardedly, supported by hovering convoys, and land our goods in harbors dominated by artillery. If such an assertion seems extravagant it is only because we have grown so used to economic barriers that we wait for them to be raised or lowered as uncomprehendingly as cattle. We have recently been shut out of New Guinea, Samoa, the Marshalls and the Carolines, and only at the eleventh hour, in cleaning up the desk of his predecessor, has a protest been made by a less impressionable Secretary of State. This situation is also discussed elsewhere.¹

Nevertheless, while gold is a logical transformer of human effort, whether free or hampered by deplorable political conditions, we must realize that like other transformers it entails an unavoidable loss of energy.

But within national boundaries, the use of such a costly transformer is not only illogical: it is pernicious, since the normal flow of service arising from just valuation is interfered with by the intervention of an arbitrary international measure of value, subject to alien hazards.

¹ See pages 3 and 114.

If we consider our total volume of internal trade we must first realize that this in reality is an expression of the flow and counter-flow of effort. A thousand units of effort exerted in California flow Eastward in return for a thousand units of effort exerted in Pittsburgh, which in the form of steel products are promptly drawn Westward by demand. Now if we consider this compound transaction we shall see that if the Pittsburgh banker credits the steel maker with 75 per cent of the estimated value of his goods, and the California banker credits the asparagus canner with 75 per cent of the estimated value of his goods, then for the remaining 25 per cent at each end some valid token such as currency must exist to extend the terminals. Let us say that the interval involved between the initiation and the closing of this exchange of effort is 60 days. The contemplation of this simple hypothetical case shows us that a certain percentage of the volume of trade must be provided for during a definite interval of time. With a valid unit of measurement there is no reason why a definite volume of currency could not be scientifically calculated, based upon the total volume of internal trade and the average interval of time involved in the exchange.

If we insist upon utilizing discretion instead of facts, these considerations, and not the evangelic yearnings of a statesman from Nebraska or Oklahoma, should govern the volume of currency. The problem is essentially one of providing extended terminals to reinforce credit. Until this need has been considered upon a logical and scientific basis, just as an engineer estimates his conducting area with relation to his initial energy, and the interval it has to traverse, we cannot do better than depend upon the facilities for the expansion and contraction of currency now provided by the Federal Reserve System.

On January 1st, 1922, we had in circulation \$53.03 per capita, or a total of \$5,775,400,315. On January 1st, 1921, we had \$59.12 per capita, or a total of \$6,340,436,718.² Let us assume, for the sake of argument, that 6 billion dollars is

² Circulation Statement, January 1, 1922. U. S. Treasury Department, Washington, D. C.

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sufficient for our present needs. All that will be necessary, then, is to call in all outstanding dollars, whether "fiat," "silver," "credit" or "gold-flavored" and issue instead unimpairable census-area dollars, redeemable in freedom, the one thing we really value.

During the war we validated much credit and exchanged for this definite promises to pay in gold. We now make these optimistic promises the partial basis of a flexible currency at the discretion of the Federal Reserve System, limited only by an arbitrary gold ratio of 40 per cent (which by the same political logic may be made 30 per cent, 20 per cent or 1 per cent). It is not gold that lies behind our currency today but political discretion, thinly-gilded.³ This, in a way, is fortunate since all the necessary precedents are well established for basing currency upon credit and other true but unconventional values.⁴ All that is proposed here is to leave the Federal Reserve System, as agent of the community, in control of the issue and validation of currency, but to back that currency with at least 100 per cent of basic economic value, or jeopardized freedom, instead of 40 per cent of uncontrollable gold. We have the minor sanction of precedent and the major sanctions of sanity, science and good-faith.

In face of a volley of protest and dire prediction, we called into being the Federal Reserve System, and gave it the power to make our certificates of value slightly less representative of gold, and slightly more representative of the total sum of national value. It is now the boast of the economic observer that we have thus eliminated "panics." But we have not eliminated "depressions." It is a reasonable contention that all we need do to eliminate "depressions" is to follow up our successful empirical remedy, and, in face of further protest and dire prediction, give our Federal Reserve System the power to make our certificates of value representative of total national value. It would occur to the scientist.

³ ". . . government obligations, some of which are of short maturities, and all of which are eligible at the Federal Reserve banks as the basis of discounts and currency issues."—*Bulletin National City Bank, New York, October, 1922*, page 8.

⁴ See footnote, page 120.

Let us assume, then, that for an adequate volume of currency, at the present time, we require 6 billion certified dollars out of the estimated 224.215 billion dollars' worth of basic wealth which we control through our taxing power. When the fact is disclosed that the Government (or the community) not only controls all this wealth, but actually owns a fairly large portion of it, we may find to our surprise that we have already in hand far more than sufficient basic exchangeable value to support our new currency without even thinking of coercion or confiscation.

The unappropriated public domain in the United States amounts to 200,320,128 million acres exclusive of the 352,781,760 acres owned in Alaska; but if this is regarded as a pledgeable asset we must see that it is paid for at its scientific value when ultimately handed over to individuals, as is most desirable for the general welfare. But in addition to this, in area controlled by Government within more thickly populated districts there is probably a total value of at least 20 billion "1920" dollars.⁵

It should be a pleasant thought to dwell on—the reassuring fact that behind the currency already issued there is actually salable community property, instead of gold belonging in some measure to the more astute and less patriotic citizens of other countries.

If it became necessary to expand the volume of our currency, to provide for the increasing activity which would arise from liberated demand, the procedure would be much as it is today in method, but not in principle.

Today a Member Bank of the Federal Reserve System comes forward with the following security:

⁵In 1913 the properties and assets of States, counties and municipalities was estimated as \$6,152,572,013 and in the previous year (1912) the total wealth of the United States shown as tax exempt was \$12,313,519,502. The latter item includes the real property of religious, charitable and educational institutions, and probably includes also the former item. (See "Wealth, Debt and Taxation," 1913, Bureau of the Census. Vol. 1, page 15; Vol. 2, page 14. Washington, D. C.) However, these totals have undoubtedly swollen in the same ratio as all our other "values," giving us ample security for an issue of 6 billion dollars' worth of our "1918" brand of currency.

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- (a) A modicum of gold normally belonging to some one else.
- (b) Government bonds for which sufficient gold does not exist anywhere to pay, or
- (c) Two-signature commercial paper, promising to pay gold, only a fraction of which exists and is almost always owned elsewhere, and by
- (d) Its own assets, all expressed in gold, only a fraction of which exists and is also owned elsewhere.

Against these the Federal Reserve Board issues currency "payable in gold," with the knowledge of every one concerned that it is only payable in gold if full payment in gold is not demanded.

Under the proposed system instead of using optimistic titles to gold (which are no more real than elaborate deeds to imaginary land), a Member Bank would put forward, as security for currency, a duly recorded tax-paid title to land valued in terms of population, the measurable essential of value. Here is our one real value: and it is ample. We are only afraid of it because we have been brought up to believe in ghosts.

If titles to land as calculably redundant as our titles to gold were sent through the mails the sender would be imprisoned; and yet we go on looking at our currency, repeating like parrots, "It must be gold: it must be gold."

Because of this delusion of *value* tied to one privately controlled commodity, we live out our lives in tragic disorder. We see a little group—a desperate man, with eyes averted, and an uncomprehending woman, striving to pacify hungry children who ask for food. It is hard to use precise scientific language in describing the tragedies due to this delusion. Let us put it impersonally to recover a calm detachment: the medium of exchange having proved inadequate with relation to increasing activity, demand was suddenly blocked while supply continued. Ill-informed production was followed by deflation, and there ensued some confusion industrially. That children are under-nourished, that women curse the day they

were conceived and that men are desperate is, of course, from a scientific point of view, only incidental.

With a known resistance to be overcome,—the provision of education, sanitation and transportation facilities,—in proportion to population: with a national conception of order: with economic *demand* provided for by the constant desire of this measurable population for freedom; and with economic *supply* also measurable in terms of effective effort, we are insured a minimum basic value; and it is only necessary to make census-area the basis of currency to govern its volume. The vexed question of volume would then settle itself,—exactly as the value of any stream settles itself because of the integral relationship between resistance, volume, density and flow. In the last analysis, this is a matter in which politics should properly have no concern whatever beyond the steady elimination of friction.

If we are discussing currency in good faith, and really mean that it should be a measure and pledge of value, and not a so-called “gold” dollar, then we must realize that a scientific national currency is simply basic value duly commissioned and mobilized,—not a detached bunch of vagrants properly subject to arrest for wearing uniforms and impersonating officers!

Practically, our economic arrangements ought to be such that there would be available, if *demanded*, a volume of currency up to the full measurable total of basic exchangeable value; and if the integrity of the demand under a scientific system can be tested out by the necessity of pledging individual land-titles⁶ the volume of currency would be automatically contracted or expanded to correspond to advantageous use. Both expansion and contraction of volume would be responsive to serious economic effort without the intervention of any apologetic authority.

This—the desired “elasticity” of the economists—arises logically, being a reverse phase of the fundamental economic sequence put forward—*Effort, Value, Freedom. Freedom* is

⁶As matters now stand the owners of real value (area x population x time) must go on their knees to the owners of arbitrary value. Democracy is either asleep, or has a very regal sense of humor.

deliberately placed in jeopardy to vouch for *Value*: *Value* is mobilized; and advantageous *Effort* is induced. Through many cumbersome agencies we are struggling toward this emancipation; but we still cling to our delusion that value must finally be measured by gold. With a rational conception of value, this sequence would be utilized even though Congress were in recess.

By the same logic it may be strongly maintained that the equally vexed question of interest-rate would also settle itself. Interest becomes simply the current value of freedom, officially certified, and this current value would be governed by measurable *available supply* and measurable *effective demand* properly coupled by the currency-issuing authority. Under such a system, with our vast store of basic economic value made apparent and subject to mobilization, it would be a little difficult to imagine call-money commanding 125 per cent interest, as we have seen happen during a panic while at the expense of the producers and the thrifty our basis of value was being brought back from Europe—in a ship—to reassure us.⁷

At the outset, the annual government charge for the certification and underwriting of value might properly be the same as the Federal tax rate on land-area, since the value certified rests wholly upon the insurance of order. Without any question the Treasury rate should be less than the open market interest rate for the certification of credit, as it is obvious that actuality offers better security than belief. The annual charge paid to the community for this underwriting and certification (which now without any justification is remitted to the owner of gold) would make a very substantial contribution to taxation or the cost of order, as it properly should. But this charge for order would fall where it belongs, namely, upon the owner of area who desired to make an advantageous use of order. Today, we find an alien owner of gold receiving his certificate free of charge, while the American farmer who controls a large share of the actuality has to pay from 7 to 10 per cent for his certificates, as well as most of the cost of order. We carry our conventions a little far.

⁷ See footnote, page 120.

There could be no plethora, and no scarcity, of money, any more than, under a scientific method of measuring dynamic value, there could be a plethora or scarcity of foot-pound-seconds in a mile-ton-year. There might be a scarcity of pounds if we insisted on trying to measure the value of our mile-ton-year in terms of pounds alone: and there could not fail to be a plethora of pounds if we issued 25 to 30 thousand million 1 lb. certificates—even though they were called “gold” pounds. Barring some extraordinary fluke we shall always have plethora or stringency plaguing us as long as we attempt to measure compound value by one unrelated and erratic dimension.

The volume of currency and the rate of interest would then settle themselves in terms of known supply and informed demand, and we would be free to go about our proper business of producing real value, instead of endeavoring to make a living at the expense of an equally bedevilled neighbor by gambling, as we do daily, on the vagaries of spurious values expressed in terms of so-called “gold” dollars.

The scrutiny of impairable capital, appraised in terms of a scientific currency, may well be left to local banks, along with the essential service of extending credit based upon personal integrity and other intangible values best appreciated locally; and the issuance of currency left to the Federal Reserve System as an arm of an otherwise occupied Treasury Department whose net “Treasure” today is a vast debt, so hopelessly unmeasurable in terms of gold that with every onslaught of the inflationists, and every vicious counter-attack of the deflationists, its menacing bulk shrinks or swells disastrously and casts terrifying shadows across the economic field.

Having reached our majority and, by means of the institution of democracy, inherited our estate, it seems illogical that we should still be kept on an arbitrary allowance of value. Is there not some slight suggestion of imbecility or, at any rate, incompetency, in the fact that we have to go to guardians to determine the extent of our economic freedom?

The volume of currency is not a problem, if we can only solve the major problem of measuring value.

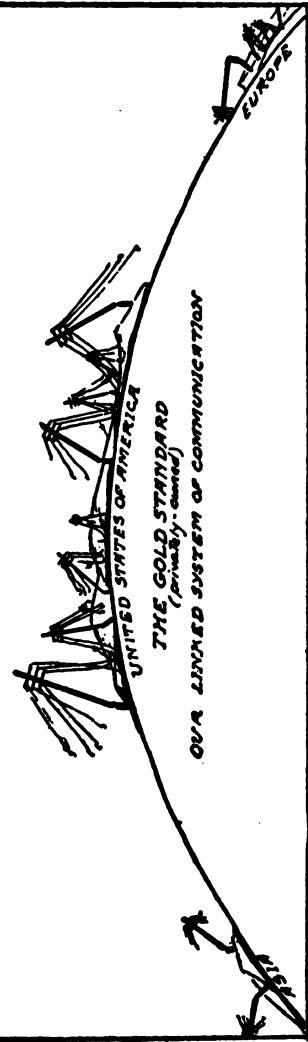
CHAPTER XIV

OUR TEMPORARY CREDIT

THE whole fabric of credit in the United States is a ragged network of personal good-faith and economic uncertainty. Within our borders, this uncertainty arises chiefly because of the erratic changes in our unscientific unit of value, and the incalculable ravages of secondary taxation, which suddenly and disastrously increase or diminish the vital extensions of credit. Externally, our credit system is a still more ragged network of halting ill-faith and distrust, and the distrust is not economic: it is political; for internationally we are in a zone dominated by the art of political-economy, not by the science of economics.

Internally the means of stabilizing our credit system lie at hand if we are capable of realizing the situation as it stands. Credit tokens, checks, endorsed warehouse receipts, bills-of-lading, and similar instruments, are a medium of exchange, without being anything more than a momentary measure of value and an insecure basis for deferred payment in "gold" dollars. These instruments of exchange would continue to be used exactly as they are today, where banks and merchants are willing to take a legitimate chance for the sake of facilitating exchange—an important necessary service for which they are quite properly paid. As a matter of fact it is an absolutely essential service which we cannot afford to do without. A Bank transports our goods for a certain number of days exactly as a Railroad transports them for a certain number of miles. All we have to do is to recognize the importance of this service and encourage its free competitive growth; but if we are to avoid disorder we must see that the credit instruments they deal in, within our borders, are expressed in terms of a scientific unit of value—not a so-called gold dollar.

POLITICAL-ECONOMIC AND CREDIT
SHOWING INTERNAL MAYHEM
DUE TO EXTERNAL DISASTER



To concentrate that a "defining weight" of gold is our present basis of value, and therefore no basis of our money, are instruments of credit; and if we realize that gold is privately produced, owned, imported and exported; then we must admit that the control of our internal measure of value is also in private hands, not always those of our own citizens; and that our internal values are obviously subject to uncontrollable fluctuations. As a consequence, a purely private or financial disturbance outside our boundaries is followed by internal disaster. Through the measurable component of value within our boundaries - land area, agriculture and resources - are unimpeded.

If, as conjectured, economic values and freedom are one and the same, and money as simply a measure of our freedom to move or above, then, by our acceptance of gold as a measure of economic value, we acquiesce in the private and arbitrary control of our freedom, and suffer it to be linked with the financial effect of areas which we regard with pity or contempt. If we continue to do this, we invite and deserve our present catastrophes, no matter how we try to mitigate them by bureaucratic adjustment.

DISTURBANCE L.

As stated already the use of credit is to facilitate exchange of services. Credit normally reinforces demand at its point of origin (the buyer and his assets are known to the local banker) and enables this valid demand to reach out toward supply. At the other end, similar credit is also reinforcing supply (the seller and his goods are known to the local banker) and enables this to reach out toward demand. In this partially formed tenuous system for conducting human energy all the vital differences of potential exist to ensure flow and counter-flow; but the circuit is not yet closed, for bankers have to be cautious.¹

The remaining gap, which represents uncertainty and distrust, must still be bridged. This is done internally by money, a second mortgage upon gold; and externally it is done by a first mortgage upon gold, or by gold itself. It is popularly supposed to be gold in every case, but much more often it is a promise to pay gold if required. The whole network of conductors therefore centers in various gold repositories which are often controlled by international bullion-dealers or unsympathetic governments, and from these repositories the available stock is either allocated or projected outward in every direction in almost invisible threads. The disasters which arise from this delicate system of conductors of human energy are due to the fact that it bridges extended areas of doubt. Crowned and uncrowned powers, or their very discreet semi-official agents, have first call upon most of the total gold; and the terminal banks which reinforce the buyer and the seller have a second preferred call upon the same stock; so that what we have is a very gossamer of gold upon which our whole credit conductor of human energy hangs suspended. The incredible thing to contemplate is that this vital communication system, within the borders of democracy, is privately owned, and linked to the external communication system which is held in alien ownership. A threatened strike, the fall of a political party in Europe, the death of a great financier, a family feud among the financial Olympians or a hint of war—and the deli-

¹ In normal commercial transactions, on a quiet market, advances of 75 per cent to 90 per cent of the value of the goods are often made.

cate fabric is shattered, not only across the seven seas but through the peaceful valleys of unsuspicious democracies. In the confusion that follows we witness the whole sorry human family struggling frantically to reconstruct again its perilous communication system, while the vital business of production and exchange is suspended.

Credit, in the abstract, is an indication of the dawn of economic order; but because, through habits of thought which dominate us long after we have cast off less dangerous domination, we tie the whole system of good-faith and facility to one commodity of unknown total quantity which is internationally-owned, and equally childishly we permit a system by which the price of this commodity is held down to an artificial level we find that its control-value, when it is massed together and reinforced by our tradition, may far exceed our capacity to meet in goods and services. As a so-called scientific factor in the economics of democracy it is beyond description: words are not scorching enough to describe it. We keep the price of gold low by legislation and we gratify ourselves by putting a few ounces on the persons of our women, as the heathen carry cherished images of the imaginary gods they dread and propitiate. At the same time, through our worship, we make its massed powers of havoc far more terrible than those of the devils that ride upon the wind and hide in the great trees of the Malay Peninsula; and in any sudden frenzy of belief depopulate a waterside village in a night. And the difference between our own superstitions and those of the primitive peoples we pity is only one of degree—with the odds in favor of the so-called savage. There is less tragedy involved when a Malay community changes its simple place of habitation than there is in the bankruptcy, during a panic, of thousands of American producers who have families dependent upon them, or the unemployment of millions of workmen.

CHAPTER XV

SPECIFIC CONSIDERATIONS

THERE are other points to be considered which bear upon the remedy proposed. These are dealt with briefly as follows:

Incidence of Taxation

Under the proposed plan the whole burden of taxation falls on land-area as truly valued by population. It is not a tax levied by a temperamental or venal appraiser upon the improved value of land measured in terms of fluctuating dollars: it is a tax based upon the occupancy-value of land-area, measured scientifically by local population-density.

By anticipating the inevitable inflation with which we are faced, we can minimize the dislocation due to a sudden change of method.¹ For the first year there would be no taxation whatever. We propose frankly to live for one year upon our newly validated credit, just as we boldly went to war. For the second year, on the basis of a total area of 1,903,215,360 acres, the *average* tax, with a 10 billion dollar budget, would be approximately \$5.00 per acre. Since the *average* density of population is 1 person per 18 acres, this would mean a tax of about 14 cents per acre in certain areas in the West where the population-density is 1 person per square mile and a tax of about \$14,600 per acre in the center of New York City where the population-density is 103,823 per square mile.²

Since the incidence of Federal taxation would bear equally upon all similarly populated land-area, there would be no question of discrimination. The underlying charge on range land in Texas would be the same as that upon range land in Montana, and the uniform charge would be reflected throughout

¹ See page 278.

² It may become necessary to draw a distinction between the "economic man" whose value is based on his place of working, and the "political man" whose value is based on his place of sleeping.

the United States in the price of beef and also in the Government wage-scale.

As far as local taxation is concerned, it should rest upon the same base, but there would be wide differences in temperament. If Twin Falls, Idaho, wants a triumphal arch, its landowners would first sanction it, then pay for it—and later, if the arch were sufficiently beautiful to attract population, would raise the rents, and by so doing would automatically raise the basic government wage, which would be reflected at the Twin Falls Industrial Army recruiting office.

The adjustment proposed involves the abandonment of all taxes on equipment, facilities, improvements, inheritances, incomes, production, effort, thrift and need. It recognizes only measurable control of value as the proper base for taxation or the insurance of value. Our personal-property tax,—which is confiscation of the small property-holder's capital, income tax,—which is the blunting of our best edged tools, and consumption taxes,—which are a tribute forced from need,—these are all put deliberately in the discard, where they should have been long since. It is natural enough for the political-economist to argue that taxation should be based upon "faculty." The trouble is that, under our present bungling, this faculty has drifted into the wrong hands!

Corporate Responsibility

We must bear in mind that it is proposed to hold *all* land-ownership responsible, since the Municipality, the County, the State, and the Federal Government itself, are all merely corporations from an economic point of view, with varying constituents. If this is understood, land-area owned by the Federal Government, within a Municipality, County or State, should pay its pro rata of local taxation; on the other hand, a Municipality, a County or a State should all pay their pro rata of the cost of Federal Government in proportion to their corporate land-holdings. This provision will eliminate many confusing inequities to which allusion has already been made.*

*See page 211.

Franchise

We have so long accustomed ourselves to think of freedom in political instead of economic terms, that we cry "one man, one vote" and regard the argument as closed. True freedom is a product of definitely balanced power and responsibility. "One man, one vote" is a red-herring drawn across the logical road to economic freedom. A program for the creation of general facilities, which provides a basic wage for all willing labor, with a margin for saving, and makes the extension of individual land-ownership unprofitable beyond a rational limit, throws open to every citizen the opportunity of owning land. The citizen then should register his citizenship in land, as all good citizens would if they could. He should proclaim his franchise, patent his sovereignty and by the same act admit his pro rata responsibility. This ensures the essential conditions of true economic freedom; but even if this goal cannot be reached it will probably be so nearly reached with the provision of economic order that universal suffrage will cease to provide free pasture for the demagogue.

Coercion of the Landless

Full consideration has been given to the coercion possible under a gold-standard system (even though we realize that it rests upon tradition and not upon gold). We must, therefore, be on guard against a similar situation arising from the private ownership of land. This is automatically safeguarded, on one hand, by the full disclosure of basic economic value, as measured by population-density: with pro rata responsibility, or taxation, imposed upon this basis, individual ownership is likely to be limited to the capacity to manage the area efficiently. On the other hand it is definitely proposed to provide safe footing for surplus labor by ensuring an opportunity at all times to enter the employment of the Government at a fair wage, so that any attempted economic coercion is definitely stopped at a certain point. What a well-organized self-governing community should have is a standing industrial army designed for

taking the offensive against such natural obstacles as block the ways of free movement. One-day enlistments should be permitted, and in this way the stigma of denying an opportunity of work to a willing citizen would be wiped away for all time, as it should have been a hundred years ago if we had appreciated the bondage of tradition under which we struggle. Such an army, always existing in skeleton form, and increased or diminished as circumstances dictated, would stand ready to step into the breach in case of any exterior political menace. A fair wage, in unimpairable units worth saving (and at a rate which ensured a margin to save), would eliminate all possibility of coercion. Such organizations as these should take the place of our present idle Federal Army and our largely ornamental State Militias. We can afford to pay such proposed armies generously, for we have ahead of us a long-neglected but most inspiring and advantageous campaign. The country cries out for highways, our waters run uselessly to sea, and our forests, guarded foolishly against private use, are turning into jungles for lack of clearing and replanting. There are harbors to be dredged, breakwaters to be extended and wharves to be projected to deep water. There are a thousand common facilities needed which we neglect, while we congratulate ourselves that, through the agency of an expensive Federal Trade Commission, we have exerted the full force of government and explicitly regulated the selling conditions of a popular brand of face powder.⁴ It is not funny: it is humiliating. The mountain labors and brings forth a mouse.

Confiscation

As stated before, there is no dream of confiscation involved in these proposals. To admit openly what we all know—namely, that we cannot pay our obligations in gold if gold is called for—is simply to face a humiliating and dangerous condition which now exists and not only dominates every extended operation but thwarts all orderly planning. What is proposed is

⁴*New York Journal of Commerce*, April 1, 1922, page 10.

to put an end to the blundering confiscation that now goes on, and by this act throw off all restrictions on effort, on genius and on organization.

We cannot remedy the past; and are forced to admit sadly that a large part of the old dollar of 1900 and of the diminished dollar of 1910 have already been confiscated by taxation and inflation. What we are guarding against now is the paltry dollar of 1930 and the termination in abject poverty of a life of effort and thrift. Those who saved in the past have now drifted beyond our help; but we may be able to step in at the present juncture and protect some of the more simple citizens who are insuring their lives, saving money, and buying bonds for long term investment, which are at the best only title to a diminishing dollar.⁵ They may appear to be titles to gold dollars, but this is the myth under whose shadow we stumble. If there were gold enough to pay off all our certificates of value, then gold itself would diminish tragically in economic value when the date arrived for redemption. As it is, the trusting citizen holds the vast promises: quite others hold the meagre gold with its portentous value of domination. Those who have the gold may keep it: those who have the certificates of value should have them tied to something real. All that is proposed is to put an end to the confiscation that arises from bad-tempered taxation and the use of internationally-owned gold as a focal point of national value, since both these are as neat and reprehensible devices for ensuring confiscation as could well be imagined.

⁵ "Why should anyone practice self-denial in order to lay away money or create a bank-account, or buy securities payable in money, when the value of money is constantly falling? Why should anyone buy a life insurance policy?"—*Bulletin* National City Bank, New York. Sept., 1922, page 12.

That they are discussing marks and not dollars makes little difference. Neither of these units has any better basis than political discretion. The conservative Republican is committed to inflation through the medium of tariffs and ship-subsidies. The so-called progressive Republican is committed to inflation through futile extensions of credit to the farmer which do nothing more than give the poor wretch a longer rope for his hanging, and to further inflation through protective tariffs on the products of his own district, while the Democrat is committed to inflation through protective tariffs on sugar and other strictly democratic goods, to say nothing of government participation in industry, and the soldiers' bonus.

Exemption

As far as this very unpleasant feature of our present economic disorder is concerned, we are involved in no new departure. Exemption has become very fashionable among the well-to-do: we propose, with one logical exception, to make it universal, and apply it to effort, thrift and consumption in any form they appear, henceforward imposing all taxation upon control of value in proportion to the basic economic value controlled. Exemption for the owner of idle capital is obviously a bar to progress: the agents of progress are seduced. But if we reverse our present procedure and offer exemption where it will serve as an inducement to effort, we shall score a gain instead of a loss. In the case of our most important citizen, the average human being who does his day's work, dreaming only of a bare security against want, exemption would be a simple act of justice. If it is pointed out that under the proposed system the ultimate burden will fall upon him through rents and the other charges based upon the control of land-area, the reply is that we recognize this and safeguard him by a basic government wage calculated upon these very charges. For this section of the community, at least, we can provide room to stand erect, or move freely forward. And, apart from his guaranty of a decent wage from the government, there is going to be a demand for his services which will force the government to recruit far more energetically than ever it did during times of less profitable warfare. Both manufacturer and landlord will be compelled to enter the market for human effort.

The manufacturer, released from all taxation, and ensured a stable unit of value, and contemplating an effective demand for his goods by justly paid workers, is going to throw every unit of his plant into operation and produce to capacity. For the first time consumption, the demand factor of value, will be fully released and in direct proportion to population. We shall probably double the value of effective demand: if we do we shall certainly take steps to go as far as necessary toward doubling the value of supply, thus doubling our flow and con-

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sequently doubling our total dynamic value, by means of this adjustment alone. In addition to this, the acceleration in the *rate of flow* (quite apart from the *volume of flow*), due to the diminishment of resistance, is capable of again enormously increasing total value.

The landlord, who in many cases instinctively holds real property as insurance against the steadily depreciating dollar, will also be forced into the labor market to his surprise—and very much to his moral advantage. He will have ample warning, but he is astute enough to heed it.

It sounds, perhaps, too much like the millennium for inclusion in a critical review of economic maladjustment; but that is simply because our minds are dulled and wearied by the meaningless clap-trap of politico-economic ritual. We know that by a little planning—the boring of a tunnel and the grading of a ditch—we can liberate and utilize hydraulic energy equal to that of half a million men; we know that by the wise direction of these waters in their free and spontaneous flow toward the sea we can multiply the fertility of hundreds of thousands acres of land, and we know that, in the end, these waters will find the sea and again be recreated upon the mountains as snow. All we have done in this inevitable cycle is to provide order and utilize freedom. Is there no voice convincing enough to teach us that through order we can also utilize pent-up human effort, liberate value and amplify freedom, to the advantage of our generation?

Within our own lifetime men have diverted a rushing mountain stream and made a pittance by cleaning up the paltry winnings of its undirected energy which in periods of flood tore down the margin of some projecting quartz ledge. Today these same old men, harbored in county hospitals in the foothills, can walk to the gates of their pitiful sanctuary and hear the sustained music of great dynamos impelling that disregarded power to farms and factories. But this is no millennial vision: it is the result of science—the provision of basic order and the study of just measurement. The same laws are valid in the dynamics of human effort—in the “science of economics,” if we can stand the phrase without nausea. Order, or

marginal control, and the free flow of effort—these are all that is necessary, and these—if the parallel has to be driven home to our comprehension—are simply just taxation of land-area, the basis of control, to provide order, and thus define value, and the liberation—or exemption—of human effort.

Inflation

It must be borne in mind that inflation is our goal. Wilful, precise and final inflation of our conception of value—sanguine, logical and unending inflation of the corresponding effort.

Universal exemption from taxation, except upon control of value, would undoubtedly result in a freedom from care and confusion that might be followed by some free spending and by some that was unwise; but the unwise spending would be checked by several cogent considerations. Savings would become unimpairable. For those who desired through land-ownership to maintain their newly validated individual sovereignty there would be the realization that it involved a gradually-approaching and never-ending annual responsibility, and the knowledge that the maintenance of this sovereignty ensured with every increase in population an actual enhancement of scientific land value. It would be in effect a legitimate harvest—a harvest of enriched sovereignty and proportionate responsibility, instead of being, as it is today, a windfall of power (stripped of its complementary duties) which is now gathered up by those who are strong enough to survive our devastating periods of inflation and deflation.

There might be some of the symptoms of inflation, arising from pure relief—a little exuberance may be looked for with liberation; but the evils due to such inflation would be mild compared with those that now overshadow us because of political pressure.

Protection

There is, unfortunately, one more point to be discussed, and it is not the conservative who has to be convinced, but the sentimentalist whose vision of the millennium is undimmed and

whose methods of attaining it are foredamned. And yet there is this to be said for the sentimentalist—his vision is instinctive and true, and while his methods are often coercive, it is because they are induced. He also lives under the shadows of tradition and lights his little tapers.

An attempt has already been made to show that the question of protection is a political one :⁶ it has no place in economic science. But there is, unfortunately, no possible application of pure economic science if we are dealing with the interchanges of arbitrarily sealed political areas, since under these conditions there is no such thing as free flow. Except as between similarly organized self-attained democracies, which stand ready to trust each other, the whole international problem has to be dealt with by the rules of the ancient art of political economy. For this reason if we throw the whole burden of taxation upon the owner of land we are logically bound to protect his products, whether they are turnips or motor-cars (for there is to be a responsible landlord as tax-trustee for each of these industries) against the competition of turnips or motor-cars which are the product of foreign areas where economic coercion can still be practiced. Since we now have in force a tariff which pretends to protect the farmer, and have had, for a long time, a tariff which protects the manufacturer, there is no novel difficulty to be faced—save only the painful task of dealing firmly with the sentimentalist who, after all, is probably right if he will give us time to settle down. If order can accomplish in the dynamics of human effort anything like the change it is capable of accomplishing in hydraulics, there will be little chance of any low-pressure services entering our high-pressure system, any more than the overflow of a spring at low levels can be introduced into a high-pressure pipe which draws its water from the mountains. Under such order and industrial co-ordination as we have, we are today producing many articles more cheaply than any country in the world, at a higher rate of

⁶ See pages 16-17.

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wages.⁷ The only doubt that arises is the true economic value of our high rate of wages. If we can protect the worker by

⁷ Mr. H. E. Miles, Chairman of the Fair Tariff League, Racine, Wisconsin, in testifying before the Committee on Finance of the United States Senate on January 23rd, 1922, states as follows:

"Contrast these facts with the tariff attitude of the hosiery and knit goods people. One of their typical representatives declares that they cannot exist without a further increase in their tariff, because, says he, average wages in the United States in this industry are \$30 per week, in England \$17.40 per week, in Germany \$5.50, in France \$7.14. Were he to tell the truth, he would say that the wage cost per dozen pairs in the United States is about 2 cents per pair on socks and twice that on women's silk hose of ordinary quality, and correspondingly more for 'full-fashioned.' He pays this; he does not pay \$30 per week, nor does any country pay less than he does per pair. That is why one-fourth of all the hosiery and knit goods made in the United States is exported the world over; that is why we exported hosiery last year to the amount of \$4,000,000 and imported only \$1,000,000, the imports being mostly novelties, golf stockings, etc., that we did not care to make. That is why our knit goods of all sorts go freely all over the world and substantially no knit underwear is imported but only fancy novelties for outer wear."

He stated further:

"The story of hosiery is repeated in almost every other industry.

"I have here from the National Acme Co. a piece of metal 3½ inches in diameter and 4 or more inches long cut inside and out into difficult shapes. It would take a skilled man a day or two at a forge to make this. Now a man runs 15 machines, each making one of these in two minutes, so the man averages 7 per minute. It would be difficult to figure the wage cost, and yet he gets 50 to 70 cents per hour. This man does the work of 500 men at hand forges in the olden days. The cost to-day is 2 cents per piece; that was once \$5 or \$10. And yet the overgreedy and dissimulating tariff beneficiary will compare the \$4.50 to \$5.50 per day that the American workmen earn at 2 cents per piece with wages in other countries where the net cost is higher.

"Here are other difficult but smaller pieces. Figure the labor on these. One man runs 15 machines, thereby averaging 7 pieces per second."

Also:

"It seems to us pertinent to note that some of our own domestic manufacturers have in the past sold their goods at 30, 40, 50 and rarely 60 per cent less price to the foreign consumer than to the American consumer. They call it 'dumping.' When anybody takes 30 to 50 off he is not dumping; he is making five profits off his fellow countrymen because of price-fixing behind the tariff wall, and selling abroad at a single profit or cost."

⁸ Tariff—H. R. 7456. Hearing before the Committee on Finance, United States Senate. Part 58.
Government Printing Office. Washington, D. C.

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devising a scientific unit of value, there is not much need to consider the real producer. As for the parasites described by Mr. Miles, they could not exist if it were not for our politically retarded circulation.

If, unfortunately, protection is involved while we effect the adjustment proposed, it will probably be only for a very short period, or until the American farmer, released from improper taxation on the basis of his capital, his effort and his need, can rearrange his program. It is also probable that even if protection is provided it will not prove necessary; for transportation and interest charges are protective factors in themselves. The liberation of the farmer from our present vicious taxation upon his facilities, equipment and improvements, thus leaving him to face only a tax in proportion to the local population-density of his district, opens up a possibility of efficient and varied agricultural production such as we have not dreamed of heretofore. It is a logical contention that such a change in method would result in a richer supply of goods even if it were not a greater supply. If in addition to this we deliberately inaugurate a campaign against natural obstacles we would intensify demand to a pitch which we now only know in warfare. With supply enriched and demand intensified there is scientific sanction for predicting an increase in value. The enormous surplus of wheat which we now proudly throw on the world's markets in competition with the Argentine may appear desirable to a certain type of economist who thinks in terms of a favorable balance of trade, settled by the transfer of gold; but a richer table at home represents scientifically a greater net economic value. One hundred thousand watts fully utilized in a ten-mile transmission system is of greater value than the same number of watts fully utilized in a two-hundred-mile transmission system. There is less loss in transmission.

CHAPTER XVI

CONCLUSION

A CONCRETE remedy to conform to the apparently abstract diagnosis put forward has been asked for and tendered. It is tentative, as far as actual figures are concerned, owing to our present statistical chaos; but it is assured and precise when it deals with census-area-order units, the logical measure of value under democracy. While it may appear abstract, this is only because of the shadows of tradition which still fall across the reader's mind. To speak bluntly, it will appear abstract in proportion to the reader's willingness to ignore the absurdities and cruelties of our present maladjustment which is continually defrauding the helpless, and baffling those normal citizens whose instinct is toward creation and production, while it enriches a few others who, without effort and without consciousness of shame, live richly because of our retarded activities.

If such steps as have been suggested could be taken to ensure order and freedom, and guard against the unjust depredations of secondary taxation, the sharp fluctuations, and the ultimate dilution of our pledge of "value," which takes place before our bewildered eyes, we would then, for the first time in human history, within organized society, be face to face with the possibility of actual individual liberty.

Our vaunted democracy is no more than the raising of the standard of Freedom over a region of economic disorder. The exterior manipulation and the gross interior maladjustment from which we suffer are both largely unrealized, and consequently all the more difficult to deal with.

With maladjustment corrected and manipulation barred, the economic circuit would at last be thrown open and we could commence an era of unrestricted flow, of valid calculation and of accelerating production. It is even possible that in the

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course of a few generations both the professional agitator and the demagogue would disappear, owing to the absence of some of their highly-valued grievances.

It must be remembered that the proposals put forward do not involve any miracle, beyond that of opening the eyes of the blind who still believe in the miracle of a valid token of national value which disregards the inverse factor of resistance, and is based upon an unmeasurable and uncontrollable commodity. There is no plan contemplated by which involved capital is declared to be community property, neither is there any dream of creating value and handing it to the state. If value is disclosed, it is at least handed to the present owners, together with its pro rata responsibility. Neither is there any assumption that there is such a thing as an "unearned increment." There is, however, a blunt assertion that, owing to our present economic chaos, there is an unrealized increment; and, what is much more important to dwell on, is that with sane adjustment there is an *earnable* increment beyond our dreams.

Some clamor will arise, as has been pointed out, by those who still dream fondly or vainly of orderly "deflation"; but such of the holders of titles to money as are guileless—and they are numerically the great majority—these, like the German peasant with his little hoard of marks, are committed to the belief that the so-called gold dollar is redeemable. If their tokens are redeemable, they should be redeemable in something other than similar tokens. If they insist upon receiving their gold they will promptly demonstrate the irredeemable character of these tokens. They will be told, with some crispness, to be content with their vouchers; for, at the first hint of their outcry, the gold will have flown to London, Madrid, Buenos Aires, Zurich or The Hague, and only the more ignorantly-held residue will be locked up in Washington until the actual owners of gold in mass have picked up all the fruit shaken from the trees, and it is safe again to announce proudly that "the gold market is now free,"—the one unconscious admission we get today from the writers of conventional politico-economic editorials of the fact that it is not always free,—or, in plainer words, that our gold obligations are not always redeemable.

Wherever gold found shelter, if demand were exercised, it would not be with the simpler folk who hold scattered title to it.

No new wealth is miraculously created: what is proposed is simply to uncover basic national value and measure it by a scientific unit, thus destroying the swaying shadows which still dominate and terrify us.

Leaving detail for the sake of a larger view, the change in our basis of measurement, from gold to census-area, would eliminate a very dangerously contracted passageway in our arteries of flow. This passageway is permitted to remain contracted because we blindly support a chaotic device for arbitrary measurement which has no better justification than a tradition of autocratic bad-faith. Our economic logic is distorted by an ancient injury.

As matters stand at present, it is as though having originally suffered our stream of human energy to be wrongfully diverted into a small inadequate reservoir controlled by a favored few, we still persist in using this, in a childish attempt to measure flow, long after we have swept away all other arbitrariness, and constructed, upon the bed-rock of individual rights, a magnificent dam fully capable of conserving the whole stream of human energy and merging all the branching and various manifestations of personal effort. To utilize, for measuring and facilitating the flow of national effort, such a device as the gold standard—a device which is inadequate, unscientific, untrustworthy and out of our control—is unspeakable economic engineering, no matter how amply supported by tradition. Any period of great demand overtaxes this archaic reservoir, and the whole machinery of production slows down, or finally stops, as in our depressions or panics. Demand, in terms of human effort, is unimpaired, but demand, in terms of gold, is checked. The only thing that prevented the same consequence from being cleanly defined in the year 1921 was our Federal Reserve System,¹ a political device created to miti-

¹The liabilities for 1921, \$755,777,685, exceeding by 77 per cent the hitherto record total, \$426,371,516, set up in 1920, were over double the aggregate, \$357,000,000, of 1914, and nearly double the totals, \$383,700,000

gate the disasters due to politico-economic inefficiency. It is a politically operated governor, designed to facilitate a politically impeded flow. We have admitted, through the utilization of such a device as the Federal Reserve System, that gold is an inadequate basis for currency: we act on this reluctant admission by making certain favored credit a further basis for currency—and then blindly measure the credit in terms of gold. Our kites fly on a longer string and we congratulate ourselves. Yet the same politically irresponsible owners hold the end of the string which controls both credit and currency. It is only tradition or sheer madness? During the panics already mentioned, of 1893 and 1907, honored by the names of Cleveland and Roosevelt, which arose for no better reasons than that our unit of measurement is invalid and that the privately owned gold-meter was being, quite legally, utilized elsewhere for private ends, our great retaining dam overflowed; and the ample and never-failing stream of human effort spread out uselessly in stagnant pools, marking the climax of a tragic episode; which the economic ritualist calls "over-production" and "under-production" or "inflation" and "deflation"; which the simpler-minded victims view as "*capitalistic control*" and then wrongly attribute to a constitution designed to preserve our individual liberty; but which the engineer recognizes as a typical form of spasmodic flow or pulsation due to maladjustment. All that has to be done is to utilize the dam which was projected in 1776, the conception of which we celebrate, with the ritualists, every Fourth of July. If we can only directly connect our now overflowing reservoir of pent-up human energy with the waiting equipment which individual genius has since constructed, cutting out the

and \$382,000,000, respectively, reported in those periods of stress, 1907 and 1893, the years of the so-called Roosevelt and Cleveland panics.

Nineteen-twenty-one, in addition to these record-breaking features, will also be remembered for its furnishing the heaviest total of large commercial failures ever recorded, and notwithstanding that, owing to the beneficent action of the Federal Reserve system, which enabled us to let off steam gradually instead of blowing up the boiler, we avoided the old-time bank panic, the second largest total of bank suspensions recorded since modern failure reporting was begun in the early eighties."—*Bradstreet's Journal*, New York, Feb. 4, 1922.

privately owned and totally inadequate gold-meter, we shall, if we can guard against political sabotage, experience the gathering momentum and swelling rhythm of synchronized effort.

Base as he may seem to the short-sighted reformer, in reality there is nothing that the normal manufacturer (mis-called a "Capitalist") desires more than an insistent and capable demand for his product. His only interest in *money* is to ensure him value, or certified freedom, in exchange for his effort, that is, a leisurely choice of ultimate payment in goods and services, or—if such be his bent—a sane extension of his useful operations. Radical, selfish and irrational as the class-conscious labor-unionist wrongly appears to the "Capitalist," there is nothing that he desires more than the goods of the manufacturer, whether he be a producer of books, plays, tools, clothes, foodstuffs, or houses. Significantly enough, the labor-unionist's only interest in *money* is also that it should ensure him value, or certified freedom, in exchange for his effort, that is, a leisurely choice of payment in terms of these goods.

The manufacturer's operations involve an extended period of time, and not knowing the future value of his "gold-standard" money payment, he drives a hard bargain with the workman. The workman perceives that the cost of this hazard is being thrust upon him and, through his union, quite properly endeavors to protect himself. Because of the hazard involved in the use of an intermediate token of exchange of fluctuating value subject to the subsequent depredations of erratic taxation, both manufacturer and workman are either on the defensive or offensive, and the logical flow of goods for services, and services for goods, is checked by futile economic warfare. Neither the manufacturer nor workman is to blame, except for his personal share in our joint economic stupidity. If we insist upon a scapegoat to bear the onus of our blundering, we might scrutinize a small group of large-minded individuals who are not interested in national boundaries, and who play with our vital machinery for the sake of the game. It is, almost literally, as though we allowed them to pull the works out of our chronometer and take them over to the neighbors' to play with. However, after all, the villainy is not very deep;

they play this costly game, first, because it is great fun (for them), and, second, because we sanction it; and it is not fair to make them the scapegoats unless they employ their power to block discussion.

It is we who are to blame; for it is we who permit this factor of havoc, which we call the gold-standard, to remain in our circulating flow of services, since politically we are our own masters.

We have, under that form of orderly self-government we call democracy, made available for profitable use a far greater stream than Niagara; and yet, because of the insistence of our economic elders, we still acquiesce in a system of measurement by check rather than flow. We attempt to force the whole stream through a very old-fashioned, privately-owned and privately-manipulated meter; because, forsooth, hundreds of years prior to the time that we consolidated the flow of individual effort, some moral idiot called an autocrat befooled his subjects by misappropriating from the stream what he could take in a bucket, an act which is a minor injury compared to the invisible subtractions made since from our hard-earned savings, or the ruin of our humble ventures arising from the use of an unscientific unit of value, which to this moment we are taught to regard with deep veneration even though it takes no cognisance of taxation, the cost of order, and no cognisance of total value.

Revolution will do us no good, unless we can believe that we shall see more clearly by standing upon our heads. Economic order, not political revolution, is our best way out; for there is little choice as to stability between the extreme right swing or the extreme left swing of the political pendulum. The recreant tyrants with whom we have to deal should be very reasonable if we care to discuss the matter frankly with them—for they are ourselves!

If we really believe that the institution of democracy marked an attempt to conserve and amplify individual liberty, then it is obvious that our conception of economic measurement by privately exercised check instead of free flow is an obstacle in the path of our ideals. Actually, we are little more democratic,

in an economic sense, than Russia is today, in a political sense. We have some claims to economic bureaucracy since we installed the Federal Reserve System, and dangerous as the inevitable recoil of bureaucratic government must be, we have by this means embarrassed to some slight extent our few intelligent economic overlords, who play their part with great discretion. And yet even the powers of the Federal Reserve System may properly come under thoughtful consideration; it is the showman, not the owner, of the gold it holds, and as showman its powers are limited by the wishes of the owners. The Federal Reserve System, by its bitterly contested enlargement of our notion of value, undoubtedly blocked a few old secret passages of international economic power, and caused some momentary confusion; but we cannot doubt that the stronger holders of massed gold are far more broad-minded than the rest of us, and still hold discreet and profitable communication with similar select groups in differently organized political areas. They can call for their gold at any time, and are busy even now increasing their right to do so, through the lucrative underwriting of vast issues of titles to so-called gold dollars, in the form of bonds. Only political intervention—which will come too late, as it always does—can prevent our waking some fine morning to find the show-case nearly empty, for the gold will flow outward to rest in other show-cases in return for mathematically impossible promises to pay in gold.² There will follow one of two things: a lowering of the gold ratio to save our political face, or a panic. Our political control of value—like so many other aspects of our political-economy—is post-mortem. If this is hotly denied a more serious charge has to be faced, namely, that our political control of value is anticipatory³—a situation very repugnant to the citizen of a democracy. There is, of course, a third delightful alternative, the possibility that our present control of value is perfect.⁴

The last arbitrary act involved, then, in our emancipation, which we failed to take at the proper time, is the conversion

² Compare footnote, page 267.

³ Compare footnotes, pages 228 and 232.

⁴ Compare page 308.

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of our arbitrary and fluctuating "gold-dollar" unit of so-called value into a scientific and stable census-area-order unit of value. The methods that have been suggested are necessarily tentative, and should be passed upon by the most representative body of experts we can assemble, if it is clearly understood that their task is a final one. We do not want government by experts or engineers any more than we want government by military dictatorship.

So vicious is our present system of measuring value that, even if a stationary unit of value can be devised, two out of three main groups of innocent citizens are going to be affected contrary to their desires—unless, as is probable, the establishment of order is capable of compensating all of us. There are some, living upon savings, who are hoping against hope that our unit will increase in value; others, involved in extended contracts, are praying that it will remain stationary, and the remainder, now producing at a loss, are hoping it will decrease in value. The significant thing is that each of these interests is an innocent and worthy one. The absence of a real villain must be very disappointing, but this is a treatise on economics, not on sociology. We are concerned now with maladjustment—not with misappropriation. Even the international bullion dealers to whom allusion has been made, and the crowned and uncrowned autocrats with whom they hob-nob, are innocent: they could not play shuttlecock with our datum if it were basic, national and measurable: it is we that make a national datum of their shuttlecock.

To outline a remedy was not the desire of the writer at the present time. The task of maintaining the challenge involved in the diagnosis is an ample one. But because of the domination of ritual and tradition, and the consequent difficulty of viewing things as a whole, the formulation of a concrete remedy has been very diffidently attempted, as a nucleus for constructive amendment.

The whole civilized world, including the United States, is conscious of present economic confusion; but it is not sufficiently aware of the cause. If we butchered every so-called capitalist in Christendom we should be very much worse off.

We have failed—and failed most tragically—in one respect only, and that is to think; for only a comprehension of the essentials of measurable national economic value can make us economically (or actually) free.

With a scientific conception of economic value we can create, *within the borders of any self-governed state*, a valid national unit of measurement redeemable in freedom, provided that we first undertake the urgent task of establishing the missing nexus between economic value and the cost of order which is essentially a pre-requisite of value.

Without a scientific unit of value there is no such thing as freedom: in any protracted action we are under the domination of hazard, of doubt and of falsehood.

We worship Freedom in the abstract; and yet we still bow down to the restriction of hazard. There is no freedom under uncertainty such as we endure. In the name of Freedom it might well be said to us, as was said in the escape from bondage of the Children of Israel, "Thou shalt have no other gods before me. Thou shalt not make to thee any graven image. Thou shalt not bow down thyself to them nor serve them."

So rooted is our idolatry that even our reformers think always in terms of penalty instead of inducement—in terms of restriction instead of in terms of free flow. Our legislation is incidental and arbitrary, while our measuring of responsibility, which we call taxation, and our medium of exchange, which we call money, both halt instead of speeding us.

We have made our exodus from political bondage, but are still wandering mentally in an economic wilderness: and the voice we need is one such as that of the great emancipator, Moses, who in laying down his rigid code of order,—moral, hygienic, agricultural and economic,—was fighting fiercely the degradation which his complacent followers hardly recognized; for it had eaten into their very conventions. They had been led away from the old days of visible bondage, the days when their task-masters had infuriated Moses by saying, "Get you unto your burdens. . . . Behold, the people of the land now are many. . . . Ye shall no more give the people straw to make brick as heretofore: let them go and gather straw for

themselves. And the tale of the bricks, which they did make heretofore, ye shall lay upon them; ye shall not diminish ought thereof; for they be idle. . . . Let there more work be laid upon the men, that they may labour therein; and let them not regard vain words.”⁵

Here, in its virgin form, was the ancient gospel of deflation—of work and thrift—urged by its safely isolated beneficiaries.

All through the Mosaic code, with its many economic implications and its fierce jealousy for order and freedom, runs the biting taunt: “And thou shalt remember that thou wast a bondman.”⁶

And through this same code is set down the importance of just measurement.

“Ye shall do no unrighteousness in judgment, in meteyard, in weight or in measure. Just balances just weights—shall ye have: I am the Lord your God which brought you out of the land of Egypt.”⁷

“Thou shalt not have in thy bag divers weights, a great and a small. Thou shalt not have in thine house divers measures, a great and a small.

“But thou shalt have a perfect and just weight, a perfect and just measure shalt thou have.”⁸

“And when thy son asketh thee in time to come, saying, What mean the testimonies, and the statutes, and the judgments which the Lord our God hath commanded you? Then thou shalt say to thy son, we were Pharaoh’s bondmen in Egypt.”⁹

To the political-economist who still deals in the ritual of autocracy, and to the scientist who cleaves to reason, based on just measurement, it may possibly be offensive to close upon this ancient note of warning, now almost forgotten. Let us then, for the last time, flout the ritualistic economist by ignoring him and turn confidently to the scientist whose mind is open; for he, above all men, knows that economic value, the

⁵ Exodus, v.

⁶ Deuteronomy xxiv:22.

⁷ Leviticus xix:35-36.

⁸ Deuteronomy xxv:13-15.

⁹ Deuteronomy v:21.

freedom arising from effort in a region of order, cannot be determined by one commodity, gold, or all commodities. It can only be *measured* in terms of total basic value, as circumscribed by its *measurable limits, land-area, population and time.*

In face of very solemn satisfaction with a state of affairs that encourages gambling rather than production; that sanctions the thwarting of effort and the defrauding of thrift; and that results in periodic chaos and long extended distress, it is most difficult to maintain a purely judicial tone, and assert coldly that our economic procedure is unscientific. It is damnable; and a fervid appeal to long-forgotten equities and to basic realities, however remote, should be forgiven.

And yet generalities must be capable of application. From a business point of view what is proposed is to reorganize our holding company, taking into consideration the undisclosed value of good-will and order; and reissue shares as the valid interests now appear, retaining sufficient of the promotion profits in the treasury to avoid unduly heavy assessments for a number of years. It is also proposed to provide for the issue, on demand, of certificates, or what we call currency, based upon the occupancy-value of area, disregarding all the privately-owned wealth which overlies this basic value. As a business proposal it is practical, conservative and sanctioned by precedent.

To further test the contention that there are some undisclosed assets to be taken into our reckoning, let us put the matter forward for the consideration of the engineer; for in his parlance the proposal is one for the development of energy from known potentialities which it can be shown are not being utilized and are inadequately provided for.

It is proposed first that we provide order and conductivity, these being regarded as necessities. It is shown, also, that effort need not be interfered with at any point after having been set in motion.

It is proposed in the next place that the flow of effort with which we are concerned can be facilitated by employing a medium of exchange which remains always relatively constant in the system at every point and at every moment.

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It is further proposed that a plan be put into effect by which advantage is taken of all surplus effort now unutilized, just as we use waste steam for preheating in a power plant.

It is urged finally that we accelerate our flow still further by inducement, making every provision for stimulating demand, in view of a potential supply (of egoistic motive force—not of goods) beyond any calculations we have been able to make.

It is contended that under these modifications there is a reasonable prospect of ensuring a very much enhanced flow of value, since C still equals $\frac{E}{R}$, even as it did in the days of

Dr. Ohm.

As stated at the outset, it is not contended that there is any possibility of changing human nature. Need, effort, emulation, competition, lust of power, and, above all, that love of freedom which includes self-preservation, self-expression, individuality and our now perilously-thwarted desire to produce and create,—these cannot be prevented from making their contributions to the vital stream of value; but if we realize that the velocity of this stream may be diminished by interference, or finally checked by disorder, we may be prepared to consider whether the basic insurance of value, through order, and its subsequent measurement, may not be provided for by methods which are scientific and impersonal and for lack of which democracy has been a curious muddle of idealism and malpractice.

Our whole judgment is so embittered by ancient injuries and basic maladjustment that the first reaction to any scientific proposal is to put forward belligerently such cases as that of a rich mine in the desert or a fertile piece of bottom-land in denuded foothills, and ask why the owners of these should pay as little for order as their neighbors. If such a mine is rich enough, or the river bottom extensive enough, population will measure their value much more justly than a popularly-elected assessor keeps pace with the advance of city rents. And, in any event, with the first transfer of title to the mine or field the richness of the one or the fertility of the other has been paid for by capital, our most flexible economic tool, which sprang

from land and must go back to land to be effective, and which it is the utmost folly to blunt or divert, as we do, year by year.

What does it matter that a few are fortunate, if order is provided for all, and needless destitution barred, in face of the fact that today many citizens are defrauded, and goaded into disloyalty under our present system.

As for the proposal to make land-area, gauged in terms of population-density, the basis of *certified value*, or currency, there is less likely to be an objection; for we all know that there is something wrong with our tokens of value and are only afraid to change until we are sure that there is available a better basis, to which to pin our faith, than imaginary gold or dubious political discretion.

Effort we can conceive: freedom we vaguely worship; but economic value is still a myth. Only in a measurable zone of self-imposed order has it any reality, and basic precision in its measurement is a pre-requisite of freedom in any given area, over any extended period of time.

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NOTE: Since the whole of the foregoing is little more than an examination of the phenomena of flow, or *adequately-coupled* supply and demand, as expressed by Ohm's law, and since Ohm's law is clearly a drawing to focus, in terms of electric energy, of the entire philosophy and science of dynamic value, it follows that an index is almost superfluous; for all roads lead back to the same generally-accepted scientific resting-place, namely, that value is directly proportional to prime impulse and inversely proportional to resistance, and that this value can only be measured in terms of the time and area in which the impulse and resistance are in conflict. However, for the convenience of the critic and the student, an index is put forward.

With the object of avoiding excessive duplication, while references to the measurable factors of economic value—*Population*, *Land-area*, and *Time*—are indexed in full, the following subjects are referred to in diminishing detail in the order named: the cause of value (*Effort*); the condition of value (*Self-imposed order*); the cost of such order (*Taxation*); the consequence of human effort defined by a measurable area and duration of self-imposed order (*Freedom, or Economic value*); and the measure of value (*Money*). Otherwise, wherever possible, reference is made to the above-named major divisions of the argument.

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