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Hopousia

by the same author

SEXUAL REGULATIONS AND HUMAN BEHAVIOUR

(Williams and Norgate, 1933)

SEX AND CULTURE

(Oxford University Press, 1934)

SEXUAL REGULATIONS AND CULTURAL BEHAVIOUR

(Oxford University Press, 1935)

THE SCANDAL OF IMPRISONMENT FOR DEBT

(Simpkin Marshall, 1935)

The first book is an abstract of the second, which contains a full statement of the evidence and conclusions summarized in the third, which is a reprint of an Address.
The difference between the first and the third is that in the first emphasis is placed on the facts; in the third on their interpretation.

The fourth book is the result of three months' investigations. The author visited the London debtors' prison four days a week, and interviewed four hundred and ninety-eight prisoners during the three months.

J. D. UNWIN

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Hopousia

OR THE SEXUAL AND ECONOMIC FOUNDATIONS OF A NEW SOCIETY

by

J. D. UNWIN

M.C., Ph.D.(Cantab)

LATE (1914) CLASSICAL EXHIBITIONER
ORIEL COLLEGE, OXFORD
LATE (1928–1931) FELLOW COMMONER
RESEARCH STUDENT, PETERHOUSE
CAMBRIDGE

WITH AN INTRODUCTION
BY
ALDOUS HUXLEY

PREFACE BY
Y. J. LUBBOCK

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WOKING

PREFACE

Hopousia began to take shape in the author's mind soon after he had finished writing *Sex and Culture* in the spring of 1934. But that summer was spent in investigating the question of Imprisonment for Debt, and the early part of 1935 in writing the results of the investigation. So it was roughly for a year or eighteen months that he had been working exclusively on *Hopousia* when he died in June 1936. (And in saying "exclusively" I mean as exclusively as all his activities at Cambridge House would allow.)

According to his fourth and last draft, the work rivalled *Sex and Culture* in magnitude. But little more than half the ground had been covered, though that, happily, was the more important half.

The scope of the work, therefore, has had to be much reduced. In order to make a coherent whole it has sometimes been necessary to include notes which are a mere outline of the author's ideas, although these, by the side of more developed matter, may seem too flimsy to support an argument.

A certain amount that was obviously not ready for publication has been re-written. Fresh chapters have been formed from those notes that were sufficiently full and clear. In spite of an almost overwhelming quantity of material, however, some gaps remain; those of most consequence being the question of Land, and the whole of Book VII which would have dealt with the actual preparation for and change-over to a completely Hopousian structure, together with the technicalities necessary for the disappearance of capitalism in forty years. That he had a plan worthy of serious consideration no one who knew J. D. Unwin or his work can doubt. But I am aware that for others the omission of Book VII may well vitiate the whole of the Hopousian structure.

There may be a few—there may be many—unable to accept all the conclusions at which he arrived. But, however that may be, the work cannot fail to stimulate the receptive mind to thought along entirely new lines. That being so, he will not have laboured in vain.

In fairness to the author, and for the interest of the reader, I append the last draft as I received it in January 1938, together with a rough outline of the re-shaping of the work.

Y. J. LUBBOCK

OLD BUCKENHAM, NORWICH
August 3, 1938

It is known that J. D. Unwin himself was not altogether pleased with the title *Hopousia*, which is derived from the Greek word meaning "where." Had he lived it is probable that he would have found another title, but as no obvious one suggested itself, the original one has been retained.

FOURTH DRAFT

INTRODUCTION

(The Difference between (*a*) Currency and Money
(*b*) Rationalism and Science.)

BOOK I

I. THE MENTAL PROCESS *
II. HUMAN ENERGY *
III. HOPOUSIA *

BOOK II

IV. STRUCTURE *
V. THE STATUS OF THE INDIVIDUAL IN HOPOUSIA *
VI. SUBDIVISIONS OF STRUCTURE †
Social, Political, and Economic Structure
VII. WANTS *
Social, Cultural, and Economic Wants—
Itilities and Commodities

PREFACE

BOOK III

VIII. CURRENCY *
Commodity-, metal-, cheque-, and token-currencies

IX. MONEY *
The Function of Money—Money as a symbol—Money-Markets—The Issue of Money

X. FOUR METHODS OF COMMODITY EXCHANGE *
The First, Second, Third, and Fourth Methods

XI. THE HOPOUSIAN WAY AND OUR WAY *
Newspapers—Buildings—Communications—Electrical Power—Fisheries—Transport

XII. FOLLY NUMBER ONE †
The Thing called Capitalism—Groups of Employers and Employed—Social Behaviour—The Warping of the Cultural Process—Wage-Slavery—The Pauper Mind—The Meaning of Credit

XIII. FOLLY NUMBER TWO ‡
The Promotion of a Symbol to the Status of an Entity—International, National, and Municipal Debt—Perpetual Interest

XIV. WHAT IS A COMMODITY? ‡
Factors in Production—Land and its Possessors

XV. FOLLY NUMBER THREE †
English Banking in the Eighteenth Century—Banking Systems of Other White Societies

XVI. FOLLY NUMBER FOUR ‡
Land is not a Commodity—The Ownership of Land—The Price of Land—The Inheritance of Land

XVII. TOWNS AND CITIES ‡
Lack of Open Spaces—Reconditioning and Rebuilding—The Shape of Hopousian Towns and Cities

XVIII. DEPOSIT-BANKING *VERSUS* CREDIT-BANKING †
Superstitions of Deposit-Bankers—Their Ideas about Cash—Contemporary Ideas about Credit—The Dreams of Idealists

XIX. THE SIZE OF A SOCIETY §
Malthusian Errors—The Effect of Birth-Control—The Size of Uncivilized Societies—Psychological Factors—The Limits of a Society's Responsibility for the Individual

XX. THE WEALTH OF A SOCIETY ‡
Contemporary Idea about a National Income—Definition of Wealth—Census of Production—Social Professions—Economic Professions

XXI. OUTLOOK AND MOTIVE ‡
The Standards Men call Christian—One, Two, Three, and Four Dimensional Outlooks—Cultural Strata

XXII. ECONOMIC GROUPS IN HOPOUSIA ‡

BOOK IV

XXIII. IDEALISTS †

XXIV. SOCIALISTS †

XXV. DISTRIBUTISTS *

XXVI. SOCIAL CREDITORS §

XXVII. CHRISTIANS *
Factors in Production—Usury—Just Price

BOOK V

XXVIII. RIGHTNESS ‡

XXIX. *NE PLUS ULTRA* *

XXX. THE FUTURE ‡

XXXI. THE PLACE OF THE GALILEAN IN THE CULTURAL PROCESS §

BOOK VI

XXXII. MALES AND FEMALES ‡
XXXIII. MARRIAGE ‡
XXXIV. THE SOVEREIGN POWER †
XXXV. STAGES IN A HOPOUSIAN PERSON'S LIFE §

BOOK VII

XXXVI. THE AGENT AND THE DAY ‡
XXXVII. THE CHANGE §
XXXVIII. AFTER FORTY YEARS §

Of the above, 13 chapters were complete (these are marked with a * sign).
7 chapters were half written out and half in notes (these are marked with a † sign).
12 chapters were in notes only (these are marked with a ‡ sign).
6 chapters were missing altogether (these are marked with a § sign).

ROUGH SKETCH OF RE-SHAPING OF WORK

Chapters III, VI, XII, XVII, XX, XXII, XXXIV together form the present Chapter X, Hopousia, and Appendices VI, VII, and VIII.

Chapters XII, XIII, XIV, XV, XVI, XVIII together form the present Chapter IX, The Four Follies, and Appendices III, IV, and V.

Chapter V has been incorporated with Chapter IV.

Chapter XXIII now appears in the Introduction, and the part of the original Introduction dealing with economics has been transferred to Chapter VIII, Currency.

Chapters XXIV, XXV, XXVII together form the present Chapter XI, Aims and Motives.

INTRODUCTION

by

Aldous Huxley

It has become fashionable to talk, in a rather romantic way, about the intellectual dangers of analysis. If one would understand anything we are told, one must consider it as a whole. By taking an organism or a process to bits, we destroy it, or at least distort it in such a way that it ceases to be itself. To be adequate to reality, knowledge must be a knowledge of wholes.

All this, of course, is true and obvious. The entities which we describe as "society," "man," "cell," "molecules," "atom" are other than the sum of their respective parts. If our study is confined to the parts, we shall not understand the whole. Shall we then confine our study to the whole? No; for experience shows that, if we consider only the whole, we shall never understand the nature of the whole. Knowledge of a whole cannot be adequate unless it is based on a thorough knowledge of parts. The whole must be taken to bits; these bits must be studied: having been studied, they must be recombined and the whole re-examined in the light of our knowledge of its constituents. Meanwhile, of course, we must remember that this knowledge of the bits has been obtained by a process which profoundly modifies the nature of the whole of which they are the components; hence the light it throws upon the nature of the unmodified whole may be misleading. If we want knowledge we must first analyse, then synthesize the results of our analysis. But we must always remember to take our conclusions with a grain of salt. Synthesis is the process of putting Humpty Dumpty together again; but nobody can be absolutely sure that the reconstructed Humpty is identical with the Dumpty who existed before the original whole was subjected to the analysis.

The problem of knowledge is greatly complicated when the whole we are considering is a process taking place at a relatively high rate of speed. Some processes are so slow that, for our human processes, we may regard any given cross section of them as specimens of a fixed and unchanging entity. Granite, for example, has been recog-

nizedly granite during the whole course if human history, and what we say about it now is likely to be true at dates in the remote future. Other processes are brief, but reproduce themselves with a punctual fidelity that permits us to regard any given specimen as typical of similar processes recurring over long stretches of past and future time. "A primrose by the river brim a yellow primrose was to him." And a yellow primrose it is to us and is likely to be for some time to come.

With certain other processes, however, the case is different. They take place at a rate which, for us, is relatively rapid and they do not reproduce themselves with complete fidelity. Typical of such processes are those to which we give the name "human societies." When we seek to understand a human society we must first analyse, then synthesize our knowledge of the bits to which, for the sake of convenience, we have reduced the whole under consideration. The bits we examine are aspects of the total behaviour of a society as observed directly by ourselves, or as recorded by other observers, in the near or distant past. (I am assuming for the moment that we have considered enough of these different aspects of a society's behaviour to permit us, when we synthesize the results of our analysis, to form a tolerably complete picture of the whole. This is, of course, a very large assumption; for, as we shall see later on, there is hardly a single one, out of all the hundreds of reformers and sociologists, who has considered all even of the more significant aspects of a society's total behaviour.) Let us suppose, then, for the sake of argument, that our synthetic picture is reasonably complete. Will this complete picture be a likeness of the society at the moment when it is drawn? No. It will always be a picture of the given society, as it was some time in the past. For practical purposes this will not be of much account in a society which is changing slowly. For a society which, like ours, is changing very rapidly, this out-of-dateness, which is an essential characteristic of any comprehensive picture, is a matter of the gravest import. "Life," Kierkegaard remarked, "can only be understood backwards; it must be lived forwards." In cases where what is behind us is conspicuously different from what lies before, an understanding which, of its nature, is always retrospective, will not be of much use to us. Or, to be more accurate, it will be of use to us only if the changes taking place are taking place according to a regular recurrent rhythm. If the changes

which are going on are changes, so to speak, in a spiral, or changes having the form of a wave of known contour, then it will not much matter if the picture we form at any given moment is up to, or out of, date; for if we look back far enough, we shall be able to see a number of entire cycles of similar changes. With the generalized typical wave or cycle before us, we shall be able to infer our own position on the circumference of the particular cycle, at the crest, or in the trough, of the particular wave, on which we find ourselves. Our picture will be out of date; but, if sufficiently out of date, will contain by implication a likeness of the immediately contemporary situation.

Very different will be the case if the changes are taking place, not in a spiral, not on the track of a known undulation, but in a straight line. For then our retrospective picture will not be merely out of date; it will also be irrelevant. The "lessons of history" are valuable only if history is a succession of tos-and-fros, of rounds-and-rounds—a succession, that is to say, of processes in some way analogous to reversible physical changes (such as the transformation of water into steam and of steam into water) or the punctual recurrences of which Peter Bell's "yellow primrose" has served as our example. If, on the contrary, history should turn out to be "just one damned thing after another," then, its lessons will be singularly uninstructive.

Looking at the facts, one is forced to the conclusion that history is neither a spiral, nor a wave, nor a straight line, but a mixture of all three. At some period it seems to be more spiral or undulating than straight, at others more straight than spiral or undulating. Nor must we forget that individual historians can and do insist upon one aspect rather than the other.

J. D. Unwin, whose untimely death in 1936 deprived the world of a mind at once original and methodical, unorthodox and sound, was one who liked to stress the spiral and undulatory nature of human history. The behaviour of single atoms is not predictable nor even accurately ascertainable; but the behaviour of very great numbers of atoms is determined in the sense that large numbers obey the law of averages, so that the odds are overwhelmingly in favour of their behaviour in a certain way. Similarly, Unwin claimed, the behaviour of human beings in the mass is determined, even though the behaviour of any given individual may be "free." In a given set of conditions societies behave in a certain way; with the removal of those

conditions they cease to behave in that way and revert to the type of behaviour current before the appearances of the conditions. If the same conditions appear, disappear and reappear within a given society, it behaves like a material body subjected to a reversible physical process. If the conditions appear, disappear, and reappear at fairly regular intervals of time, this to-and-fro movement will take on the appearance of a spiral, and the historian will observe a series of recurrent cycles analogous to the life cycle of our yellow primrose.

Anthropology and history reveal two highly significant facts: first, that, at any given moment of time the amount of energy displayed by human societies and by classes within societies is not the same; and second, that in the course of historical time, the amount of energy displayed by any given society or class may vary and, from being small, may become great, or, from being great, may become small. Many theories have been invented to account for these facts. Unwin's contribution to the subject was contained in *Sex and Culture*. In this book he set out to test, historically, a hypothesis propounded on psychological grounds by Freud and his followers—the hypothesis that civilization is correlated with sexual repression. Unwin went through the available anthropological and historical literature and, in the light of the evidence contained in it, came to the conclusion that Freud was right, and that the energy necessary for producing what we call civilization is generated by imposing restraints on the sexual impulse; and that the amount of energy displayed by any class of society and the kind of civilization produced by it is directly proportional to the amount of sexual restraint which it suffers. The spiral appearance of history is due to the fact that societies (or, more often, classes within societies) have imposed sexual restraints upon themselves, have generated energy and produced a civilization, and have then grown tired of the restraints, lost their energy and, with it, their cultural and political position. Such, then, according to Unwin, have been the conditions determining large-scale human behaviour. Societies have reacted to these conditions of sexual restraint with as much regularity as water reacts to conditions of temperature, turning from water to steam as temperature rises and from steam to water, from water to ice, when it falls.

At the time of his death Unwin was at work on a sequel to his *Sex and Culture*. This book of which the unfinished fragments are now being published under the title *Hopousia*, treats at length of a

single question: What are the conditions which must be fulfilled if a society is to go on displaying maximum energy for an indefinite period? In order to answer this question, one must, according to Unwin, discover a solution to two specific problems. First, a way must be found for making a good deal of sexual restraint indefinitely acceptable to at least the ruling classes of a society. Second, it is necessary to discover an economic system which does not, as ours so manifestly does, interfere with the display of energy, but rather fosters and encourages it. In *Hopousia*, Unwin presents his solution to these two problems. The sexual restraint required to generate energy is to be made acceptable by the institution of two distinct types of marriage, an alpha marriage, strictly monogamous and preceded by pre-nuptial continence; and a beta marriage, terminable at will and for which pre-nuptial continence is not a necessity. The Hopousians will be free to choose either type of marriage. Those who prefer intellectual satisfactions and political responsibility to emotional excitement and the pleasures of the senses will choose an alpha marriage, with its stringent restrictions as well as all its advantages. Those who are not interested in social position and the things of the mind, will conduct their sexual life according to the beta plan. There will be no compulsion; and a circulatory movement of young betas opting for an alpha status, young alphas choosing the easier beta way, will go on incessantly. That some such arrangement is probably sound would seem to follow from the fact that it merely systematizes and gives social sanction to a process which, unofficially, is going on in all societies dominated by an energetic ruling class. From time immemorial, moralists have recognized that men and women must make a choice between addictions on the one hand and possessions and social position on the other. The names applied to these entities have changed from age to age. For the dramatists of the seventeenth century, for example, the struggle was between "love" and "honour." In our own age, we speak of "pleasure" and the "will to power." In the language of the classical philosophers, there is a conflict between "the passions" and "the reason"; and "the reason" is frequently identified by popular moralists with calculating self-interest in the pursuit of power, possessions and, more rarely, of intellectual gratifications. (It should be noted, incidentally, that money-grubbing and power-hunting have been only too frequently sanctified with the name of "duty." Indulgence of the sexual impulse

is a "duty" only during romantic periods.) The rejection by hardy individuals of the allurements of sensual and emotional pleasure in favour of power and possessions is a theme that has become classical in the literatures of all energetic societies. No less of a favourite is the converse of this theme. "All for Love, or the World Well Lost" is as classical as "All for the World, alias Duty, or Love Well Lost." The social mechanism proposed by Unwin would make it possible for people to lose the world for love or love for the world with the minimum of friction and discomfort and the maximum awareness of the consequences of choice, the privileges and penalties accruing to them once their choice was made. Up to the present, no class or society has consented to suffer sexual restraint for very long. But then, up to the present, no class or society has known what precisely was the point of suffering sexual restraint. In Unwin's hypothetical community all the cards (or at any rate all of them belonging to what may be called the social suits) would be on the table. In these circumstances we may expect that, in every generation, enough people would select the alpha way of life to allow their society to go on displaying energy indefinitely.

By means of suitable sexual restraint a society may develop energy; but this energy may find itself checked and hampered by imperfect economic arrangements. This is the case in all energetic societies at the present time. How can our economic arrangements be changed so that they will encourage the display of energy, not impede and pervert it as they do at present? Unwin's answer to this question is contained in a series of masterly chapters. I shall not attempt to summarize his arguments. Let it suffice to say that, if Unwin's scheme is sound, there exists a method by which the intolerable burden of usury can be lifted; by which political power can be taken out of the hands of those who control money; by which production can be automatically balanced by a corresponding quantity of purchasing power; by which unemployment, among the rich as well as among the poor, can be eliminated; by which personal liberty based upon economic independence can be fortified and the monstrous power of central authority diminished.

Unwin professes to write, not as a "reformer," not as an "idealist," but as a man of science studying an entity—human society—whose nature is such that it always reacts to the same circumstances in the same way. Human society is determined, therefore, he insists, it is

absurd to imagine that by working for specific "reforms" and "ideals" one will achieve what one wants to achieve. History shows that, when people aim at the realization of a particular ideal, they generally succeed in getting just the opposite of what they want. Thus, conservatives try to conserve a given state of affairs; what they generally get is revolution. Revolutionaries try to obtain liberty, justice, and equality by violent means: tyranny and the enslavement of the masses are the usual consequence of their efforts. When the prevailing ideal is to get rich, the result, as we see to-day in Europe and America, is that most of the members of the wealth-loving society are reduced to poverty and an abject dependence on their plutocratic or bureaucratic rulers. A quarter of a century ago, militant idealists waged a war in order to end war and to make the world safe for democracy; *si monumentum requiris, circumspice.* The moralists discovered long since that those who make happiness their aim, seldom achieve it; happiness, like coal tar, is a by-product of something else. This is equally true of most other good things. Justice, liberty, tolerance, peace, even material prosperity are by-products. The problem which confronts the reforming idealist is to discover what it is they are the by-products of; in other words, what, if any, are the social conditions whose fulfilment will produce the states to which we attach these names.

All this is excellent. But at this point Unwin begins to make assumptions which I find it impossible to accept. Justice, liberty, and the like cannot be achieved if pursued as specific goals; they are by-products which will not appear unless certain conditions are fulfilled. Unwin claims that these conditions will have been fulfilled when, by means of suitable sexual and economic arrangements, a society is made to display maximum energy for an indefinite period.

To make such a claim is, it seems to me, enormously to oversimplify the problems. That suitable sexual and economic arrangements are essential to any society which would lead the good life is obvious; and I am prepared to believe that the sexual and economic arrangements devised by Unwin are of the right kind; that some such arrangements will have to be adopted by any society that seriously desires justice, liberty, and the rest. What is not obvious, what is, on the contrary, enormously doubtful, is the contention that suitable sexual and economic arrangements are the only necessary preconditions to the good life. I have already drawn attention to the fact

that most reformers and sociologists fail to take into account all even of the more significant aspects of a society's behaviour. Unwin, it seems to me, has fallen into the almost universal error of over-simplification. This over-simplification is twofold. There is what may be called the extensional over-simplification, which consists in the omission to consider all the significant factors existing at a given time; and there is a temporal over-simplification, which is the failure to take into account the occasional and unpredictable emergence into actuality of entirely new entities. The factors which Unwin has chosen to omit may be classed under four main heads: biological, technological, psychological, intellectual. Let us consider a few characteristic examples of each class.

In the biological category I shall list only two items, psycho-physical types and diet. Olüf Bruel, in the issue of *Character and Personality* for March 1936, has shown how the behaviour of individuals and perhaps even of a whole society, may be modified by variations in the distribution of congenital types. Speaking of the Scandinavian countries, he points out that the morbidity of schizophrenia is lowest in Northern Sweden and Iceland, where the majority of individuals are of schizothymic types; highest in Southern Sweden and Denmark, where the population is heterogeneous and a large quantity of cyclothymic individuals are mixed with the schizothymes. In America, Sheldon has pointed to the danger of indiscriminately mixing children of different types in schools, while Sullivan has written of the particularly good results obtained in acute cases of schizophrenia by the simple device of providing the patients with attendants who are themselves of schizothymic type. Here, it is obvious, is a purely biological factor in social life to which it would be most unwise to remain indifferent.

My other example is taken from the field of bio-chemistry. It has been shown that certain deficiencies in diet, especially deficiencies in minerals, may profoundly modify human character. There is evidence that recent developments in agricultural technique have tended to increase these deficiencies. The use of nitrates has greatly increased the yield of all crops, with the result that soils have been depleted of their mineral reserves at an alarming rate. The objects we call eggs and apples are probably different, chemically speaking, from the eggs and apples of a hundred and fifty years ago. A society living on a minerally deficient diet will not behave in the same way as a society

whose diet is rich in all the factors necessary to sustain life at its highest pitch.

Before passing from this category to the next, I would like to remark parenthetically that the most significant novelties in our planetary history have been biological. Evolution has been an irreversible one-way process. Viewed as a whole, the history of life has the appearance of a straight line. True, there have been periods of relative stability during which living forms have reproduced themselves in regularly repeated cycles. But for all living beings, these periods have alternated with others during which the spirals straighten out and there is no repetition, but the emergence of a novelty. "A primrose by the river brim a yellow primrose was to him," and so it is to us, and so, very likely, will it be for a long time to come. But if Wordsworth had substituted "scented musk plant" for "yellow primrose," the case would be different. For the musk plant which, to Peter Bell, would have been scented presents itself to us as a plant without a smell. In the last years of the nineteenth century all musk plants all over the world lost their perfume. Why or how, nobody knows. But the fact remains that, within a period of about a quarter of a century, an entirely novel fact about musk plants emerged into actuality. Like all the rest of us, Unwin writes about the human race as though its biological stability were assured. He assumes that it will continue to be what it has been. And of course it may. But, on the other hand, it may not. In the past, physiological specialization and excessive size led to the extinction of many types of reptiles and mammals. At the present time human beings have embarked on a career of psychological specialization and have burdened themselves with social organizations at once much larger and much more complicated than anything of the kind evolved in the past. Is it legitimate to compare modern men and their societies on the one hand and the too bulky, too highly specialized saurians and mammals of earlier ages on the other? Is the resemblance merely accidental, or are the two cases homologous? Again, is the path we have taken a two-way street along which we can, if necessary, retreat? Or are we involved in an irreversible biological process? These are questions to which events alone can give the answers.

We pass now to our second category, the technological. Here more than anywhere the lessons of history prove irrelevant; for the realm of technology is a realm of novelties, not of repetitions,

of straight lines rather than of cycles. In the past, it is true, the technological process was similar to the biological, inasmuch as periods of straight-line advance alternated with relatively long periods of stability, during which established processes were repeated until they came almost to take on the regularity of natural phenomena. In recent centuries men have discovered the art of discovery, with the result that the periods of technological stability have grown absolutely and relatively shorter, the periods of straight-line advance more and more frequent until now they are practically continuous.

Technological changes profoundly affect societies and individuals. Unwin is doubtless right in insisting that social energy is generated by sexual restraint and can be augmented or diminished by the prevailing system of exchange. He is surely wrong in ignoring the way in which technological discoveries determine the forms taken by social energy and the direction in which it flows. Let us consider an obvious example. The power plant of early industrialism was the steam engine. The nature of this power plant was such that huge factories had to be built near the coal mines and an intensive process of centralization inaugurated. The industrialization of England began at an early date and it is therefore in England that excessive urbanization, with all its attendant evils, has gone the farthest. Moreover, the forces of material and psychological inertia are such that it has proved impossible hitherto to reverse this process, in spite of the fact that, with the invention of the dynamo and the internal combustion engine, it is no longer economically necessary. This last fact has been clearly demonstrated by the Swedes, who entered the industrial field after the discovery of the electric generator and who have succeeded in combining high industrial efficiency with a minimum of urbanization. The fundamental system of exchange is the same in Sweden as in England; but, because the two countries embarked on their industrialization at different periods of technological development, their respective ways of life are dissimilar.

We may remark in this context that the psychological inertia mentioned in the preceding paragraph is displayed by theorists no less than by practical men enmeshed in vested interests. The innumerable advocates of "economic planning" continue, for the most part, to talk and write as though centralization was the last word in economic efficiency. Recent technological advances have

made it the last word but one. For example, planners still talk about the desirability of great hydroelectric projects, oblivious of the fact that the enormous first cost of dams and power lines makes the electricity they produce much more expensive than the current that can be generated in any back yard by the new baby Diesel power plants. And, of course, electricity is not the only commodity that can now be produced more cheaply in the home or the local workshop than in the factory. For example, the great steam mills at our ports produce flour very cheaply; but any housewife who wishes can now have better flour at lower cost by passing wheat through a tiny electric mill in her own kitchen. Again, a local workshop with electric current and perhaps a hundred pounds' worth of machinery can turn out wooden furniture almost as rapidly as, and certainly more cheaply than, a great factory. I have seen modern hand looms on which not very expert weavers could produce a yard of good cloth in an hour. Small-scale power machinery for doing light metal work is already available at prices which are within the reach of the artisan. And, of course, as the demand for such machinery increases, the prices will tend to fall. Borsodi has calculated that, in the present state of technological development, about two-thirds of all productive processes can be carried out in the home or the small workshop more economically than in the mass-producing factory; the remainder are of such a nature that they cannot be carried out (in existing technological conditions) except in factories. Technology is rapidly making nonsense of the old worship of size and centralization. Those who still preach it do so either through force of habit, because they are not aware of the new developments in technology, or because they are fascists or state socialists who believe in centralized tyranny and do not want individuals to enjoy that economic independence on which alone a system of political democracy can be based. That the greatest possible number of individuals should make use of recent technological discoveries to become as far as possible economically self-sufficient is not only desirable for political reasons: it is also necessary in order that they may be protected, as far as possible, from the impact of further technological discoveries. Let us consider a few obvious examples. Two or three years ago the Italians produced a synthetic wool from casein; this year the Americans improved on the Italian process. Within the next ten years we may confidently expect further improvements. Twenty

years hence, what will have happened to the export trade and, with it, the entire economic structure of Australia? One shudders to think. If the majority of Australians are not economically self-sufficient by that date, there will be great suffering and probably serious political unrest.

The discovery of artificial silk has already caused a good deal of local distress—for example in the Rhône valley. Real silk is still superior to artificial; consequently, where real silk can be produced cheaply, as in Japan, it can still compete successfully with rayon. This year Dupont announces the invention of a new artificial silk, produced from coal tar, which is actually superior to real silk. Japanese silk-worm growers and weavers will be well advised to make themselves economically self-sufficient.

Meanwhile revolutionary advances in agricultural techniques are threatening farmers in every part of the world. In Southern Califo~nia tomatoes are already being grown on a commercial scale, not in earth, but in scientifically prepared chemical solutions. Experimentally, many other plants and even fruit trees have been grown in similar solutions. In most cases, the growth has been more rapid, the yield considerably higher, the amount of land and labour considerably less than when traditional methods are employed. That a large proportion of agricultural land and its population will soon be superfluous seems very probable. The sooner farmers can get off a cash-crop economy on to a subsistence economy, the better for them—all the more so as modern technological methods should make it possible for them to subsist with relatively little drudgery and relatively great comfort.

Of the applications of modern technology to warfare so much has been written that I need not elaborate the theme. The subject is one which Unwin does not mention; and yet it is obvious that these applications must have a profound influence on the behaviour of societies. The sexual and economic arrangements of the English, for example, might be perfect; but the fact remains that, however great their energy, they could not fail, in an age of aeroplanes, to be less powerful, relatively to their neighbours, than they were in an age when sea power was undisputed.

Unwin's failure to mention the problem of war is particularly serious. He professes, in *Hopousia*, to be making a kind of theoretical experiment upon a closed society, isolated, for the purposes of the

experiment, from the rest of the world. But this arbitrary distortion of reality is scientifically unsound. An isolated society does not exist any more than does an isolated individual. In practice, you cannot conduct a scientific experiment on an object that is non-existent. In theory, unfortunately, you can. But the results of this theoretical experiment are not likely to be entirely satisfactory. The energy of contemporary societies is great; but a very large amount of it is spent on waging or preparing to wage war. No scientific observer of human behaviour can afford to neglect this fact, which constitutes the principal item in our third, or psychological, category.

The fundamental problem in this field may be phrased in some such way as this: do the conditions which make for a display of maximum energy also and automatically make for a display of the best kind of energy? Are the most energetic individuals and societies necessarily the most kindly, forbearing and peaceable? Unwin raises this question, only to answer it in a single sentence by the implication of a sweeping affirmative. Specifically, what he denies is the existence (affirmed by so many psychologists) of a correlation between enforced continence on the one hand and a certain tendency to cruelty and aggressiveness on the other.

But the evidence for this particular correlation is too great to be lightly dismissed. Incidentally, Unwin admits that some such correlation holds good when he affirms that energetic societies generally tend to occupy new territories. But, in most cases, new territories cannot be obtained except by waging war. Energetic peoples have frequently been imperialists. In the realm of individual psychology puritanism tends to beget ruthlessness. In the realm of social psychology, there is a connection between the energy of a class or a society and its leanings towards war. Conditions which increase the quantity of energy displayed by a society do not necessarily improve its quality. True, the highest virtues can be displayed only in the most energetic societies; but this is also true of the greatest crimes. Moreover, energetic societies will display great virtues only when special care is taken to break what may be called the normal connection between sexual restraint and aggressiveness, and to divert the energy evolved by sexual restraint along ethically reputable channels. How is this to be achieved? Obviously, it can be brought about only by education. Which brings us to our fourth and final category, that of beliefs.

Every educational system is based, in the last resort, upon a philosophy of life, a system of metaphysics. In the modern democratic countries, for example, education is based on a philosophy of humanism that pays lip service to Christianity and that has accepted, more or less unconsciously, the wholly sub-human values of plutocracy. In the dictatorial countries, education is based on the criminally insane metaphysic of nationalism, faintly mitigated by humanism. And so on. Unwin records the fact that energetic societies produce theologies and undertake religious practices; but he fails entirely to comment upon the way in which a society's theology may condition its entire behaviour and even determine its fate. For example, the Aztecs were an energetic people. Like all energetic peoples, they evolved a theology. The nature of this theology was such that it led directly to their destruction. Their belief that the sun was a person who would die, unless supplied with the hearts of human victims, was directly responsible for the Aztec's peculiar brand of man-hunting imperialism. The desire to capture their adversaries alive, that they might be sacrificed to the sun, made them reluctant to kill the Spanish invaders in battle; and this, in its turn, led to the capture of Tenochtitlan and the fall of the Mexican kingdom. In our own day, the belief that every nation is God and that the local boss is His Prophet is rapidly leading the most energetic countries of Europe and Asia towards another world war, or economic bankruptcy and revolution, or all three at once or in succession. At any given moment the prevailing philosophy of life determines, if not completely, at least in part, the way in which societies and classes shall use the supplies of energy generated through sexual continence. Unwin's failure to describe the theology of Hopousia is a failure to describe a vital part of the mechanism for directing the energies of the Hopousians towards desirable ends. It also accounts, incidentally, for the fact that his experimental society is a society of only two castes—whereas it seems pretty clear that no society be can viable for very long unless it has at least three and preferably four castes. To use the Indian terminology, Unwin's society consists of Kshatriyas and Sudras. The ideal society is probably one having an intermediate caste of minor administrators between the Sudras and the Kshatriyas and, above the Kshatriyas, a caste of Brahmins primarily concerned with the ultimate philosophical and psychological problems of humanity.

In this last sentence I would specially stress the word "psychological"; for it is obvious that there is not much value in a philosophy to which men give only an intellectual assent; to be influential, it must be realized with the entire being, it must be lived as well as understood. Every religion, from Buddhism and Christianity to National Socialism and Communism, consists of two parts: a theory and a psychological technique, by means of which the theory can be made operative within individuals, and from the practice of which individuals may derive new insights regarding the ultimate nature of things. Unwin's own excursions into theology—for he makes such excursions, not on behalf of the Hopousians, but on his own account—are exclusively theoretical. No discussion of psychological practices accompanies his metaphysical speculations which, in their turn, are not derived from immediate psychological experience, but only from the inferences of the astronomers. But the inferences of astronomers are dubious and admittedly provisional. It seems, therefore, most unwise to base a natural theology upon such foundations.

One is on much surer ground if one builds, as the early Buddhists built their philosophical system, upon the facts of human experience—the facts of human experience on the physiological level, the facts of human experience on the emotional and intellectual levels, the facts of human experience on what, for want of a better word, we may as well call the "spiritual" level, reached only by those who are prepared to fulfil the extremely difficult conditions of mystical insight. On these psychological foundations one can build a solid metaphysical structure. If it is so desired, the inferences of astronomers, or of anyone else, can be incorporated into the upper parts of the edifice. Accessions of knowledge will modify such inferences; but the modifications will leave the foundations of the system unimpaired.

A philosophy based on the facts of human experience—*all* the facts, of course, not merely some of them—will have this further advantage, that it will be universally acceptable. An energetic person who is prepared to fulfil the necessary conditions of knowledge will be able to discover the axioms of the doctrine for himself. In his study of Eckhard and Sankhara, Professor Otto has brought out this fact very clearly. Thousands of miles of space and centuries of time separated the two thinkers; between them was the cultural gulf that divides Asia from Europe. Nevertheless, their

philosophies are substantially identical. For both were firmly based upon the facts, all the facts, of human experience. A society may display immense energy; but if its energy is not directed by a philosophy based on all the facts of immediate, culturally unmodified human experience, it is likely to be at least as destructive as constructive, at least as evil as good.

If I have written at such length of the things which Unwin omitted to discuss, it is not from any desire to disparage his achievements. On the contrary, I am inclined to believe that these achievements—the formulation of the sexual and economic conditions of social energy—are in the highest degree important; so important, indeed, that they will have to be taken into account in any programme of social reorganization. In listing Unwin's omissions, my aim has been to save these valuable ideas from the consequences of the author's excessive simplification of the human problem. A course of action which would lead to excellent results, if accompanied by appropriate actions in other fields, may turn out to be useless or even positively harmful when pursued in isolation. To attack the forces of evil and stupidity on only one or two fronts is bad strategy. The battle will never be won until we learn to make a simultaneous and perfectly co-ordinated assault on all the more important fronts. —and there are at least a dozen major seats of war. The fact is somewhat discouraging. The making of such a simultaneous and perfectly co-ordinated attack on many fronts requires not only much good will and much enthusiastic and intelligent co-operation; it also requires an enormous amount of detailed knowledge, synthesized in terms of a general philosophy. We do not at present possess the requisite knowledge; and, if it could be obtained, it would never, in a rapidly changing society such as ours, be up to date.

"We understand backwards; we live forwards." Moreover, the number of variables in any given social situation is so huge that one may doubt whether, in the nature of things, it will ever be possible correctly to foresee even the more important consequences of any course of action. The fact remains, however, that action is necessary, and necessary, what is more, on all fronts simultaneously. Mistakes are inevitable; the best we can hope to do is by means of intelligent forethought, to reduce their number and magnitude. It is certain that the war against evil and stupidity can be waged more efficiently

than it is being waged at present. The smashing victory of which Utopian reformers dream is probably beyond our reach; but, given enough intelligence and good will, it should be possible to score a number of modest successes. As things are at present, evil and stupidity are in the ascendant; for the best part of a generation, civilized men have known nothing but defeat—at their own hands. Unwin seems to have believed that, in *Hopousia* and *Sex and Culture*, he had elaborated a complete plan of campaign against embattled evil and stupidity. My own conviction is that the complete plan of campaign will have to be much more comprehensive. If that plan is ever elaborated, Unwin's contributions will take their place—a very important place—in the larger structure.

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INTRODUCTION

AFTER completing some researches into the nature of the forces that control human behaviour I began to consider what may be called an experiment in social science. This consists of an attempt to create a new event in the cultural process and to control the state of nature which has hitherto always existed in that process.

The experiment involves changing the structure of a society in a certain way for a certain purpose which will become clear in the course of this work. As it is the first of its kind, the work may be crude in places, and doubtless such mistakes will be made as are inevitably made by pioneers. These, subsequent experiences may be relied upon to correct.

The mental process which we must adopt is of the utmost importance. Our personal standards and ideals must be forgotten. We must make only those changes—and we must make all those changes—demanded by the purpose of the experiment, regardless of our own predilections and prejudices. Instead of coming from inside ourselves our standards of judgment must come from outside. For those born into an idealistic tradition the abolition of personal value judgments is not easy. Also orthodox mental processes are like railway trains which run only on rails laid down in the past. A new point of view requires mental energy and courage.

Semitic prophets talked about justice and righteousness long before Plato met Socrates, but the "ideals" that flourish among white men to-day may fairly be described as descending from the Platonic ideas, which have become so integral a part of our inherited tradition that lip-service is paid to them by everyone. Trained to think in terms of the Hellenic tradition, and soaked in the cosmology of that great writer, Plato, we throw a cloak of idealism over our personal standards. When men say they are seeking Truth, Justice, Goodness, or Beauty, they are apt to forget that no human judgments are absolute. When we study human records we see only the results of various and varying opinions about these things. In the course of the cultural process standards change, opinions change. At one time one standard is adopted, at another time a different one. In one cultural era one opinion seems good, in another cultural era a different,

and possibly contrary, opinion is preferred. Human ego such that each opinion seems right, good, proper, and just to those who hold it, but at the bar of reason they cannot justify their attitude. All we can say is that in certain cultural conditions men hold this opinion and that in other cultural conditions they hold another. When a reformer talks of his desire for social justice he means that the social system should be amended according to his views.

A man that studies human affairs scientifically has to fit his facts to a frame that is independent of his personal values. If he does not do so his work is not science but autobiography. His discoveries, like all scientific discoveries, will often invalidate the opinions of rationalists; there will ensue the usual struggles between the reformers whose thoughts move along the old familiar lines and the scientist who is compelled by his researches to alter his mental direction and to proceed through fresh mental country.

It is only a scientific outlook that can be creative. It may reduce hope in the scale of virtue, but it is the only way to produce results. The achievement of these results, however, demands the complete repudiation of the rationalistic point of view; and this is not easy. In this rationalistic age nearly all of us look at things from a purely rationalistic point of view, almost without knowing it.

The essence of the rationalistic creed is that every man must judge for himself by using his reason. He may call his personal standards his "ideals," but he does not thereby change their personal character. It is because a rationalist's standards are purely personal that his point of view is an impossible one for any creative worker to adopt.

Great men act as they act because they think as they think. In an energetic society some men attain complete control over themselves, and shake themselves free from the effect their experiences have had upon them. From their numbers prophets arise, concerning whom the popular saying is true, that they were born out of their time. But the vast majority of men behave as their experience dictates. Their unconscious minds, storehouses of every incident that occurred since their birth, control their behaviour. From this influence they are never free.

Our temperaments, dispositions and, in a rationalistic age, our philosophies are the product of the times in which we live and of the influences to which we have been exposed. Those mental

reactions we call our opinions, what value can they ha
person is unique. The collection of the experiences that
and that make us what we are, can never be repeated; but we are each a product of those experiences and our opinions are merely a reflection of them. How then by expressing an opinion, exert any control over our lives? We babble about the relation between the sexes, the function of law and the best method of organizing our society, but our opinions of these things have been produced by other forces, which are those that control the cultural process. If we are ever to control the direction of our lives, one of the first things we must do is to curb our emotions and distrust our opinions. We think as we think because we live in a certain place at a certain time; our personal standards are a chance affair in a changing world. How can we ever achieve anything by relying on them? We may struggle, aspire, hope, and dream; but it will not avail us. So long as we rely on mere opinions, the cultural process will continue to take its necessary course, and take our opinions with it. Nor will the cultural process be affected by such false values. It will continue to produce a new cultural age, in which different ideals will be adopted. Thus an institution that one generation creates in accordance with its own "ideal" of justice will be regarded by another generation as unjust; and if this generation also is so foolish as to speak in terms of ideals, it will have to conclude that the world is a hopeless place, for out of justice has sprung injustice. But all that has happened is that at different times there have been held different opinions concerning what is just. The paradox of injustice emerging out of justice has only occurred because the different standards of what is just have both been called justice.

If we are ever to secure what we want we must simply create the conditions out of which it will emerge. There is no other way than that. Does not all our experience show that no abstract quality or state can be consciously achieved? If we aim at achieving it consciously or directly we do not succeed but, instead, achieve something quite different, even what we wished to avoid. On the other hand, we constantly find that the quality we desire has actually been achieved quite unconsciously, having emerged from another state.

If a man sets out to be happy he does not succeed in being happy; he merely becomes restless and dissatisfied. Yet if he does work that he enjoys he is happy. In other words, happiness cannot be

consciously achieved; it is a condition that emerges from another state.

It is the same with beauty and all similar things. They cannot be consciously achieved. If we try to achieve them we do not succeed but achieve their opposites. If a man consciously aims at beauty his work becomes self-conscious and lacking in spontaneity. If he aims at being "good," he becomes self-righteous. If he aims at perfection he ends by being a prig. If he aims at being unselfish he becomes a colourless bore. Time was when these arguments would have been regarded as illogical. It is not long since Euclidean geometry, with its doctrines of straight and parallel lines, was accepted without question; it has now been abandoned in favour of a geometry which fits the observed facts more accurately. Mathematicians have discovered that in the long run there is no such thing as a straight line; light bends. And since light bends it can never arrive at the point predicted by the man who thinks it moves in straight lines. It is the same in human affairs. Our forefathers used to think that if they aimed at being good they would become good; that if they aimed at beauty they would achieve beauty; that if they aimed at being unselfish they would love their neighbours as themselves. And these doctrines are still being preached, in spite of their manifest results. But the observed fact is that the man who consciously aims at an abstract quality or state is his own enemy; for by consciously aiming at it he is not only prevented from achieving it but also certain to achieve something quite different, even what he was consciously trying to avoid. *Qui veut faire l'ange fait la bête.*

When I give this queer truth its full measure of significance I cannot wonder that, after trying in vain to secure their ideals by direct methods, our more intelligent rationalists are exchanging their idealism for some other rationalistic mood. Failing to get what they want, they are taking the easy path of being content with what they can get. In Hellas Plato was succeeded by Antitheses, Aristippus, and Diogenes. A similar change is taking place among us now. Cynicism and hedonism, not idealism, is the prevailing thought of our disillusioned middle classes. Nothing condemns an idea more quickly than to call it Utopian. True, the idealistic tradition is still preserved by the less instructed members of the bourgeoisie; but this is only because if they discarded it they would feel morally naked and

ashamed. They no longer believe that they can secure their desires, and when they loudly condemn the moral nudity of their more robust brethren, they are really angry with themselves; for what they lack is the courage of those who, having come to the conclusion that the universe is meaningless, life pointless, effort bootless, and organized society a callous outrage on men, decide to collect as much money as they can and have as good a time as they can. What else, they pertinently ask, is to be done in a confused world that is without purpose or intelligence?

It seems almost impossible to exaggerate how greatly the pursuit of ideals has led men astray. Wherever we look we see traces of the paradox I have described. The more men pursue ideals the less chance they have of attaining them and the more they secure the precise opposite of what they want.

I take it that for some years now the aim of most white men has been to get rich. A few have achieved riches, but as a social aspiration a state of riches has not been achieved. Men have secured a plentiful supply of material things that they wish to possess or consume, but they have to deprive themselves of much by limiting the amount that is produced. They have invented the means of producing commodities quickly and in large quantities; but those commodities are not available to any except a few. Riches imply an abundance of goods; but instead of abundance we find poverty. The army of paupers grows larger every day. To be rich men must produce much; but we are daily increasing the number of our pensioners. Moreover, since machines are idle, men are idle too, and they are paid and fed though they produce nothing. Craftsmen have difficulty in practising their craft; young men, anxious to be trained as apprentices, are turned into the street and find anti-social outlets for the energy they cannot exert in a productive way. Meanwhile the products of indifferent workmanship are almost forced upon us, and our basic industries must be subsidized, one by one. By aiming at riches we are achieving poverty and bankruptcy. And this is not all. The companies that control the production of the few commodities that are still being exchanged are beginning to occupy a position comparable with that of the robber barons in the reign of King Stephen; the workers are being reduced to a position less free than that of the medieval villeins and slaves. In many cases the companies own the land on which the factory stands, the houses

in which the workers live, the shops from which they buy their food and clothes, and the machines that furnish light and heat. Such companies often have their own private police whose position is similar to that of the barons' retainers. The directors are the modern feudal lords, dispensing justice in the local courts, controlling the insurance trusts that provide the funeral expenses of the workers' dead, training and appointing the priests that care for the workers' souls, and directing the policy of the theatres, play-houses, cinemas, and all cultural activities. Every item in this condition can be traced to a desire to get rich. In its most virulent form it has been most handsomely achieved in America, the home of the desire to obtain riches for their own sake; but the same phenomena exist in many parts of Western Europe. Each day the companies secure control of some fresh area; and if their operations are not so obvious in Great Britain it is only because the despotism being created there is not a local despotism but state despotism.

Disillusioned idealists tend to place a false value on these facts, and even pretend they are not facts at all. Such men speak of depressions of trade and piously hope for better times. Others emulate the ancients by resorting to such common tricks as debasing the currency or juggling with the markets. Others still are Socialists, who seem to think that these things will cease if local despotism is abolished and state despotism established. But the inherent nature of things is not changed by such intellectual evasions. The truth is that like everything else a state of wealth cannot be consciously achieved. If men try to achieve it consciously and directly they merely secure (as we ourselves are discovering) something else, quite different, even what they consciously tried to avoid. Wealth is a factor which emerges from another state.

Again, consider Russia. I am one of those who have never been able to see anything new in the behaviour of the Russian revolutionaries; but it is hard to secure trustworthy or complete information about what is happening there. One thing seems certain though, namely that the Russians are not only failing to achieve their declared aim; they are also achieving something else, quite different, even what they tried to avoid.

They are said to have aimed at establishing a condition of communism. The word has been variously defined and is often used without being defined at all. As the original Russian leaders used

the word, communism denoted a state in which every man contributed according to his ability and received according to his need. At first, as a corollary of their communism, these leaders decreed that each person should receive the same income or rations. But the peasants, on being told that from the results of their labours they were to receive only their own small share, began to produce enough for themselves and no more. Thus there was no surplus for the town-dwellers; and soon, in order that the necessary surplus might be produced, the peasants were told to get rich quickly, and to get as rich as they could. Under the circumstances, this may have been necessary; it may even have been regarded as a temporary measure; but it is certainly the negation of communism as originally understood. Then the private trader began to reappear, at first surreptitiously, then openly. Again, this may have been inevitable, but it is the negation of communism. With the aid of foreign material and brains, factories were erected; in these factories piece-work was soon introduced. Piece-work is not only another negation of communism, it is also one of the things the communists set out to destroy. Lottery loans were issued; these are thoroughly bourgeois and another negation of communism. The bonds bear interest; thus, usury, another negation of communism, became a recognized institution; and an effort to achieve communism consciously and directly has merely resulted in the re-creation of familiar institutions under different control and leadership. Moreover, these institutions are the very ones the communists originally set out to destroy. The Russian oligarchy has merely succeeded in extirpating one bureaucracy and establishing another. The new bureaucrats behave in the same way as such parasites have always behaved in the past. They demand and secure special houses, special comforts, special privileges. There is nothing communistic in all this. The very conditions that the new bureaucracy is creating are the ones against which the original revolution took place. And time is not lessening but increasing the difference between what was originally aimed at and what is being achieved. In theory the Russians tried to achieve an ideal —the whole movement reeks with the emotional fervour of idealism—that had often been dreamed of by men. In practice they seem to be creating an Oriental despotism that is becoming common, and is likely to become more common, in the Western world.

It no longer seems to me extraordinary that the Russian leaders are receiving the reward that comes to all idealistic reformers—that of seeing the emergence from their efforts of something other than that at which they aimed. Communism has been the dream of many philosophers and may be regarded as part of what idealists call the Golden Age. It is obviously a condition which must be permitted to emerge from another state. When a man rises to a certain position in the cultural scale he ceases to place any value on material rewards. His joy lies in the work, not in its reward; not in the finding but in the search; not in what has been accomplished but in the doing. Men of this calibre lose patience with an argument about rates of pay or ratios of profit; they always desire a communistic policy in order that they may be free from any cares that distract them from the work they love to do. They are by no means rare, even to-day; and if a majority of citizens were in that psychological or cultural state, a state of communism would automatically emerge. If, therefore, members of a society wish to achieve a state of communism, they must concentrate their attention on the production of the psychological conditions out of which a state of communism would naturally emerge. They must not try to achieve it directly. By such means they will surely fail.

It may well be that as a result of our experiment the society will secure what many reformers and idealists have regarded and still regard as Justice, Truth, Goodness, and Beauty. But we shall not aim to get these things; if the conditions are right they will merely emerge.

The pursuit of ideals does not lessen, as some men have claimed, but intensifies the struggle of group against group that is an unavoidable element in the life of any society in a state of nature. In Great Britain to-day various political parties solicit our suffrage for different political programmes. Actually these parties are carrying on an ordinary kind of class-war; but the idealistic tradition is so strong among us that each party claims to pursue the same ideal, e.g. Justice. Thoughtless men claim that this common aim unites the parties which are only divided according to the method by which the ideal may be attained. But what each party wants is not Justice but its own idea of what is just. And the result is conflict. Moreover, since each party professes to fight for Justice the fight is fiercer than it would be if each one admitted it was merely fighting for its own

interests. It seems to me that till we recognize these things we can understand nothing.

The reformer, on being given his chance, does not change but merely patches the social system. And as soon as a patch is inserted in one place, a hole appears in another place, the weakness of which was not noticed till an extra strain was placed on it. After a time there is little of the original fabric left; all that exists is a series of patches. That would not matter if the patches formed a united whole, but there is nothing to hold them together, so eventually they fall apart. All a reformer can really do is to hasten a dissolution. A society can crash; it can be re-created; but it cannot be reformed. I cannot emphasize too strongly the simple fact that in conducting this experiment we are not reformers but creators. The difference is so great that it is almost easier for a leopard to change its spots, or for a millionaire to enter the Galilean's kingdom than for a reformer to understand, or even to have any sympathy with, the work we are going to do.

BOOK I

As a chemist experiments with a material substance in order to see what will happen, so we are going to experiment with a human society.

As raw material any society will serve our purpose, but it seems only tactful to choose our own.

The experiment consists in changing the structure of the society in such a way as to make it display the greatest possible amount of energy unceasingly. Some men think that social energy is desirable for its own sake, but as there is no objective evidence compelling the induction either that social energy is desirable or worth the price that must be paid for it, other men's motives for the experiment will be those of curiosity only.

This experimental society is called Hopousia.

The structure of a society may be compared with that of a material substance. The chemical properties of a material substance depend, first, on the nature of the atoms composing it, and, secondly, on the way these atoms are placed in relation to one another. Similarly the cultural behaviour of a society depends, first, on the nature of the groups composing it, and, secondly, on their relation to one another.

A society is not a collection of individuals but a network of human groups.

In designing the structure of Hopousia, therefore, we must decide what kinds of groups we shall need for our purpose. Their relation to one another will emerge as we proceed.

But before we decide what kind of groups we want we must discuss the individual.

BOOK I

CHAPTER I THE MENTAL PROCESS
II HUMAN ENERGY
III THE CULTURAL PROCESS
IV STRUCTURE

CHAPTER I

The Mental Process

THE mental processes of scientists are different from those of rationalists. The difference is one of mental development.

In the seventeenth century all forms of knowledge were called "philosophy." The title of Newton's *Principia* was not *Scientiae Principia* but *Philosophiae Naturalis Principia Mathematica*. Though Newton did not call himself a scientist, we do so because we find it necessary to make distinctions he did not recognize. Instead of calling all forms of knowledge "philosophy," we sub-divide them according to their kind; and the time has now come to make further distinctions and to note the difference between the ways in which rationalists and scientists use their power of reason. Basically the difference is epistemological; but we need not go too deeply into that here. The difference is of the utmost importance because, in order to create a new event in the cultural process, we have to employ the mental process called science, for this alone is creative in the sense I mean. (Incidentally we must also distinguish between the mental processes of different scientists. There are at least three different forms of science as we shall see during the course of this chapter. The particular mental process we must use in order to create a new event in the cultural process has been employed by physicists, chemists, and to some extent by biologists; but it has never yet been applied to human affairs. That is why, I submit, no human society has yet succeeded in controlling its cultural fate.)

Carl Jung made a notable contribution to the study of human affairs when he distinguished between directed and phantasy thinking.[1] Other psychologists—William James for example—have analysed the different ways in which men think, but Jung was the first to divide mental processes into those two categories, which are exclusive in the sense that both cannot be employed by the same

[1] C. G. Jung, *Psychology of the Unconscious*, pp. 8–41, especially 13 and 22.

person at the same time. One difference between a scientist and a rationalist is that in the course of his work the scientist does not employ phantasies at all. True, some modern astronomers do so in their popular books, but on those occasions they are thinking in a rationalistic way because it has a wider appeal than the scientific. Once we have recognized the chief characteristics of rationalistic thought we can easily identify in those popular books the place where the mental change takes place.

The difference between directed and phantasy thinking is not one of mental development. Neither process can be said to be superior to the other; they are just different. Persons that make a habit of thinking directedly are apt to be dull plodding fellows; phantasy thinkers can be the best company in the world. A directed thinker often seems a pedant, for exactitude of thought and expression is essential to his work.

Phantasy thinking expresses itself in pictures and consists of day-dreams and associated memories. We let the external world go by and retire into a world of phantasy. Pictures arise of their own accord and float through the mind; without effort on our part image succeeds image. This is the kind of thinking we indulge in when we are tired. Our thoughts go hither and thither, not, to be sure, at random, but propelled by unconscious impulses; the pictures represent our secret wishes and desires. Phantasy thinking is like free-wheeling down a hill with a strong wind behind.

All idealists are phantasy thinkers. Examine what such men write; many words are there but not much meaning. The reason is that words are not the right medium for the expression of such thoughts; a phantasy is best communicated in pictures and symbols. When a psychotherapist is studying a confused mental state he does not obtain much useful knowledge from his patient's words; he asks for dreams and drawings.

In his attitude towards human affairs a phantasy thinker is usually a reformer. The value of what he says is autobiographical; for his opinions come from inside him and are controlled by his previous experiences. To those experiences he has reacted, as a ball reacts to the wall against which it is thrown. The manner in which the ball comes off the wall depends upon the angle at which it hits the wall, and on the nature of the wall. Even so the opinions of a reformer represent his individual reactions against the conditions

that prevail in his time. When a reformer appraises some social, political, or economic institution, the interest lies only in the fact that that particular man praises or condemns that particular thing and singles it out for special mention.

Nowadays many a reformer, disgusted at the conditions that prevail here now, is anxious to describe what in his opinion "ought" to be and how things would be in a "well-organized" society. Such a man is a phantasy thinker, in a dream state. What he calls a "well-organized" society is merely a picture of a society he would like to live in. We sometimes find that he himself plays a prominent part in its affairs.

Directed thinking is different. In this case our minds are directed on to the external world; we base our conclusions on information received from outside us. Our personal opinions and predilections, our secret wishes, our whole inner selves must be forgotten. The attention must be focussed on the external world alone. For this reason directed thinking is tiring and requires consistent effort, like pedalling uphill against the wind. We can only think directedly when we are fresh; it is as if our thoughts are reluctant to travel along that road. Directed thinking is generated by the intellect and expressed in words. It is a distinguishing mark of the scientist.

The rationalist upholds the human reason as the sole arbiter of validity; but his mind, far from working reasonably at all times, as he is inclined to claim, is often as perverse as a child's temper. His judgments do not always spring from his intellect but are often emotional and arbitrary. I recently came across a book written by a rationalist who wished to instruct his readers in sexual psychology. Speaking of masturbation, he referred to the traditional idea that masturbation makes the teeth drop out. "We do not believe that now," he cried, and implied that modern science had killed the ghost.

But the truth is that there is no scientific evidence by which to judge. Far from citing a scientific discovery the author was merely making a declaration of his personal faith. The opinion he expressed was just as unscientific as the one he condemned. Before any *scientific* opinion could be expressed the matter would have to be the subject of a special investigation. The investigator would have to collect, say, a thousand boys and a thousand girls (a thousand of each seems a fair sample), examine their teeth, and ask them to

masturbate freely. He would then have to collect another thousand of each, examine their teeth, and see that none masturbated. After, say, fifteen years he would have to examine all their teeth again, publish the results, and give his own judgment. It is improbable that such an inquiry will ever be conducted; but that is the only *scientific* way.

Since no such inquiry has yet been conducted no scientist can say whether masturbation affects the teeth or not. The author was right to call the traditional opinion unscientific; for it was not founded on direct evidence; at any rate such evidence, if it existed, is not now known to us. But the author was wrong to claim that scientific discoveries have proved the traditional opinion false. There is simply no scientific evidence either way.

If we examine the source of that man's negative faith we find it in his personal reaction against the medieval tradition. This is one of the commonest forms of rationalistic unreason. In the time-sequence a rationalistic state emerges, if a society has enough energy, from a deistic one. When a society is in the deistic state no person may act according to his own private ideas of what is right or wrong, good or evil, desirable or undesirable. These things are decided by the priests. When the society produces a rationalistic stratum the members of that stratum first withhold consent from anything that cannot be rationally demonstrated, but soon they condemn the whole deistic tradition, and an idea or institution is then derided because the priests once nurtured it.

When a rationalist condemns as false an opinion not proved untrue by scientific evidence he is merely displaying the nature of his super-ego. A psychologist would probably find the origin of his declaration in some forgotten incident of childhood.

It is commonly supposed that the rationalist is the scientist's friend; but the opposite is often the case. The reason is that a rationalist does not judge from the external evidence alone. His ideas about what is "reasonable" depend on the nature of his experiences, and the psychologists have taught us what an unreasonable origin some of these idesa have. In a rationalistic age a scientist often has to struggle just as hard for recognition as in a deistic one. We hear much about Galileo having been bullied by a Pope, but our rationalistic historians usually obscure the fact that in rationalistic Athens, by a decree passed in the last years of Pericles, a man who

published astronomical theories was liable to impeachment. The history of the last hundred years also contains many examples of quiet research the results of which have been spurned because they conflicted with the preconceived ideas of the rationalists. A scientist hails the rationalists for shaking off the mental fetters imposed by the priests, but he in his turn often finds it necessary to shake off the fetters that the unconscious desires and fears of the rationalists impose on him.

At the same time the rationalist is not wholly a phantasy thinker; he sometimes thinks directedly. But when he does his mental processes differ from those of scientists in at least three ways which will become apparent in the course of this chapter.

Whatever kind of a thinker a man is, he subscribes to one fundamental truth, namely, that in this mysterious cosmos some things are; others merely exist. Men may disagree about the identity of the things that are, but to the general proposition they consent.

The things that are constitute Reality. They are eternal, outside the time-dimension, and never change. They are also absolute and can be judged by no standard. The study of Reality is Metaphysics, though sometimes it is called Philosophy.

The things that merely exist are inside the time-dimension and constantly change. They themselves are not, for they are always in a state of becoming something else. Because they change they are said to constitute Process. The study of Process is Science.

Process, by which I mean the cosmic process, the totality of perceptible things, is one and indivisible; but for the purpose of scientific study it divides itself into three parts, the material, biological, and cultural processes. These co-exist and blend and cannot really be considered apart from one another. Indeed, the biological and cultural processes are dependent on the material process; without it they could not take place. Moreover, the cultural process is also dependent on the biological process; without the biological process the events in the cultural process could not take place. But, if we recognize the inter-dependence of the three processes, there is no danger in speaking of them separately.

The material process consists of the successive changes that take place in perceptible non-living things; nebulae, stars, planets, fields, rivers, seas—these change continually. Sometimes the change is great enough to be appreciated by our senses, but it usually

escapes us, and by the time it is great enough to force itself upon our notice we are already dead. Yet the change indubitably occurs. We can never see the same star twice, or walk in the same field twice, or sail the same sea twice. Since our last acquaintance with them they have changed. And behind every material thing, supporting it and retaining it in existence, is energy, which under certain conditions, perhaps under all conditions, possesses mass. When a mass can be appreciated by the human senses, or by an instrument made by men, it is a perceptible thing, a sense impression, an occurrence or event in a process made up of change. Thus the material process may be said to be, first, fluid, because in it no event is permanent, and, secondly, creative, because new events are constantly emerging out of the old ones.

The biological process consists of the changes that occur in the state and behaviour of living things. In this process too change is continuous; every organism changes constantly. Its cells collect, are renewed, and then disperse. After their collection and before their dispersal we can see, feel, and sometimes hear the organism; but we never see it in the same condition twice. Since last seen it has changed. Change is the essence of life; and when we consider the biological process as a whole we observe that the changes in the state of an organism are due both to its own efforts, and to the influence of its environment to which every organism must adapt itself or die. Under these circumstances the appearance of the organism changes; even its structure may alter; and sometimes the change is so great that the old organism is hardly recognizable in its new form. So the biological process too may be said to be, first, fluid, because in it no event is permanent, and, secondly, creative, because new events are constantly emerging out of the old ones.

The human organism is an event in the biological process and is no exception to the rule of change. From the moment when the spermatozoon joins the ovum there is continual change in the state of the organism. The embryo develops; the child is born, grows, makes its contribution to the sum of things, and dies. So far as our senses are concerned, it then disappears. We can never meet the same man twice, or shake the same hand twice. Since our last acquaintance with them they have changed. Nowadays some persons try to conceal or to arrest this change; such behaviour is patho-

logical. Change is so inherent in every form of life that an attempt to deny it reveals a maladjustment to life, or at any rate a failure to participate in life. Epigrammatically, he that does not change is dead.

The human organism does not live alone. Naturally gregarious, it only lives in organized units called societies. By virtue of its inherent nature it also possesses certain attributes that are peculiar to itself; it can reflect upon itself, reason, and create. Its possession of these powers enables human societies to display an energy which produces the events that constitute the third process, the cultural process. The cultural process consists of all the events created by human energy, which in its turn consists of behaviour due to the use of the three unique powers I have mentioned.

The observed behaviour of any society, like that of a star, depends on the amount of its energy. At different points of space and time some societies display an equal amount of energy; they therefore behave in the same way. Conversely, at different points of space and time some societies display an unequal amount of energy; they therefore behave in different ways. Moreover, at different points in the time-dimension but at the same point in space, the amount of energy displayed by any given society varies, sometimes increasing, at other times decreasing. So as time passes the behaviour of the society changes. Its behaviour at any single point of time is like a photograph, an instantaneous glimpse of an ever-changing phenomenon. The society was never in that state before and will never be in that state again. Its cultural career is, like a cinematograph picture, a moving story; and the whole cultural process is like the material and biological processes, first, fluid, because in it no event is permanent, and, secondly, creative, because new events are constantly emerging out of the old ones.

Within an energetic society some groups are always more energetic than other groups, and the society is culturally stratified. Each group behaves in the manner dictated by the amount of energy it displays; we judge the amount of the society's energy by that of its most energetic stratum. As time passes the amount of energy displayed by the various group changes, sometimes increasing, at other times decreasing. It is thus possible for the most energetic group to gain, to lose, or to regain, any position in the cultural scale. The cultural process is not a one-way street. The illusion of Progress has

arisen because, in whichever direction a society travels, it thinks it is advancing.

There used to be some confusion between the biological and cultural processes. This was because the word "evolution," spelt with a capital E, was applied to both. "Evolution" was then conceived as an operating force, and the identity between the two processes emerged from the idea that the events must be identical because they were produced by the same force. Happily those careless days are gone. It even seems extraordinary to us that any orderly thinker could ever have confused the conditions under which the human organism arrived on the earth's surface with those under which it displays its inherent powers.[1]

Several factors operate to produce the changes that take place in Process; no analysis of them could confidently be presented as exhaustive. But two are prominent: every material event, every organism, and the behaviour of every human society changes of its own accord; it also changes because other events of the same kind exert an influence on it.

In the material process every event has its field of force and affects, and is affected by, every other material event that comes within that field. Its behaviour depends not only on the amount of its own energy but also on that of the other events into whose field of force it comes. Amid the spiral nebulae the galactic system moves (we are told) at about two hundred and fifty miles a second; it does so because it is within a field of force. The sun carries us at about twelve miles a second through the galactic system and has no choice in the matter; for it is within a field of force. It also has a field of force itself, and exerts continuous influence in the earth, which is bound to it by force and perforce moves round it at about twenty miles a second.

The extent of any field of force depends on the energy of the event responsible for it. Should there be any conflict between two material events the more energetic event wins. If a small star, in the course of its determined movements, comes within the field of force belonging to another and greater star, it is warped and pulled out of shape and may be disrupted. Its fate depends on the proportion its own energy bears to that of the star it has approached. A greater

[1] Cp. my *Sex and Culture*, para. 159, where the subject is discussed at greater length.

and more energetic star is not visibly affected by the influence of a little neighbour. If they approach one another the little one suffers but the great one proceeds, unharmed, on its majestic course.

The same thing occurs among the material events on and in the earth. These interact continuously. The extent of the land, the depth of the sea, and the shape of the mountains continually alter. In the material process destruction and creation proceed side by side.

The events in the biological process likewise interact. Self-moving organisms prey on one another, the lion on the hind, the fox on the fowl, the cat on the bird, the bird on the worm, and the human organism on almost every other organism. Beneath the seas too there is perpetual carnage. And the struggle of one organism against another affects the behaviour, appearance, and structure of each, and increases the changes that occur in the course of the organism's efforts to adapt itself to its material environment.

Nowadays some men declare that Darwinism is dead. By this they mean they wish it were dead. For they are those who are repelled by Nature. Not liking what they see there they place a false value on it and try to deny the truth of the facts to which Darwin called attention. But no man destroys or alters a fact by disregarding it. Darwinism is not dead; but it does not command the common consent that once it did for it has been found inadequate. Nature *does* select; but her method of selection does not explain survival. It merely explains why in the course of the biological process some organisms have been eliminated. To account for survival, we have to hypothesize that in all organisms there is an urge to live, to grow, and to avoid untimely death. Every organism changes constantly of its own accord; it also changes because its material environment is such-and-such and because other organisms exert an influence on it. Despite its will to live a weakling will die if it cannot cope with its environment. But even if it can cope with its environment it may still die; for it may come within the field of force of another and more powerful organism, which destroys it. Charles Darwin was convinced that the influence of the environment alone was insufficient to explain variety. See *The Origin of Species*, pp. 2, 6: "Naturalists continually refer to external conditions such as climate, food, etc., as the only possible cause of variation. In one limited sense this may be true; but it is preposterous to attribute to mere external conditions the structure, for instance, of the woodpecker. with its

feet, tail, beak and tongue, so admirably adapted to catch insects under the bark of trees . . . We must bear in mind that there are two factors, namely the nature of the organism and the nature of the conditions. The former seems to be much the more important."

The same factors operate in the cultural process. A weak society may disintegrate because it has not enough energy to cope with the conditions under which it has to live. But if it has enough energy it will survive. In that case, like every other society, it has its own field of force, the extent of which depends on the amount of its energy. Moreover, it influences and is influenced by every other society that comes within that field. If it has a greater energy than the other society it will survive, but if its energy is less it may be disrupted. Even if it is not disrupted its behaviour will change so that it is hardly recognizable as the same society; for, if a group from one society even goes to live near another society, and has a greater energy, it changes the behaviour of its neighbour. If, however, the energy of the visiting group is less than that of the society that is visited, the group is itself absorbed or destroyed.

Within an energetic society the same interaction occurs. The more energetic groups dominate the less energetic ones, till, as time passes, their power is wrested from them, either because they have lost their energy or because the energy of other groups has increased. Thus there emerges from time to time a different political structure, which is a reflection of the relative energy possessed by the groups of which the society is composed.

I am aware that the reformer imagines he introduces these changes into the political structure of his society; but actually it is they that produce him. His opinions are those of his age, due to be expressed there and then, and are expressible by a member of that society at no other time. In the course of the cultural process different types of human behaviour and different political structures (such as are loosely called monarchy, despotism, aristocracy, democracy, and bureaucracy) appear when conditions are ripe for their growth, and disappear when these conditions no longer prevail. Such changes are as natural and inevitable as a change in the length of a giraffe's neck, of a chimpanzee's forearm, in the shape of the hooves of horses, or in the horns of oxen. They represent the reaction of the society, and of the groups within it, to a particular condition of things; they are produced by the same forces that produce all other natural

changes, namely, an effort on the part of the groups and the effect on them of their experiences.

These three parts into which Process is divided for the purpose of study can be sub-divided. The study of the material process includes astro-physics, physics, metallurgy, chemistry, and geology. That of the biological process includes botany, the study of non-human organisms, physiology, pathology, and anatomy. Social science is the study of the cultural process and includes social anthropology, history, and economics. It is with these only that we are immediately concerned. But we must remember that all these distinctions are artificial. The material, biological, and cultural processes blend, and it is possible to say roughly where they meet. The biological process seems to meet the material process in certain forms of colloidal matter; the cultural process meets the biological process in the human organism. The human organism is an event in the biological process; its behaviour is an event in the cultural process. And, since it has a share in both processes, it displays, in addition to the unique energy I have mentioned, other forms of energy also; for example, the energy manifest in self-motion. But this is common to many other organisms, and when I speak of *human energy* in the technical sense I do not refer to this organic energy, but only to energy that results from the development of potential powers. At the same time we must not forget that the two forms of energy co-exist, blend, and influence one another. There seem to be certain organic conditions in which human energy, and certain cultural conditions in which organic energy, cannot be displayed. Moreover, cultural behaviour affects organic structure, and organic structure affects cultural behaviour. In Process everything is interlocked; the three subsidiary processes, though distinct, are really indissoluble.

Now in studying Process, which is his sole affair, a scientist confines his attention to the events he observes; but a rationalist cannot be content with this. He seeks finality. He has scorned the conclusions and rejected the claims of the priests, but he still experiences the need to be in a right relation with the world, and he proceeds, as it were, to construct his own cosmos. It is probably that the urge to do so arises out of a desire for unity, which is lacking in him owing to some previous experience and which he seeks to regain; for there is no doubt that so long as he can create a mental picture of a world in which he feels comfortable any picture will do.

There is always a desire that the picture shall conform with the facts of experience; but, in constructing his private notion of what the cosmos is like, the rationalist travels where his temperament leads, and it is at this point that he ceases to think directedly and becomes a phantasy thinker. Moreover, he quickly, and sometimes I suspect unconsciously, passes the barrier between Reality and Process, and will not admit he cannot ever know all.

It was in the seventeenth century that our own society became energetic enough to produce some rationalists, but this was not our first experience of the rationalistic mental process, which in an incipient form had been used in Western Europe three centuries before. But the medieval scholastics were not out-and-out rationalists; they did not try to create a cosmos of their own. The hold of the Church on the economic life of the community was too strong to permit such independence. Instead of trying to arrive unaided at their own interpretation of life's experiences, the scholastics tried to synthetize the dogmas of Latin Christianity and the results of Hellenic speculation. As Willey puts it, they tried to harmonize "Aristotle with Paul and Augustine; metaphysics with revelation, reason with faith."[1]

We must admit their success; and it is important to note that nowadays their syntheses seem to be regaining some of their old popularity. Many contemporary thinkers, depressed and confused by the anarchy that surrounds them, are seeking a safe haven for their souls. The result is that in Protestant countries St. Thomas Aquinas is beginning to enjoy a wider respect than has been his lot since the Reformation. Psychologically, this reversion is interesting and bears out what I have just said; for it cannot be defended by reason. The fact that many rationalists are becoming Thomists shows clearly that they are not, as they claim, urged on by reason alone. Nevertheless to keep in touch with the tendencies of our time we must keep *Summa Theologica* on a handy shelf.

It is possible that this so-called flight from reason is due, at least in part, to the more exaggerated notions of those astronomers who have employed their scientific reputation to give prominence to their ideas about Reality. If scientists, from an insecure position, insist on making confident pronouncements about things outside their province, we cannot be surprised if some rationalists begin

[1] B. Willey, *The Seventeenth Century Background*, p. 13.

to lose faith in the scientific method and revert to a pre-scientific cosmology. But, whether these astronomers are partly responsible for the phenomenon or not, there can be no doubt that the strength of the Thomist position lies in its successful bridging of the gap between Reality and Process, between Being and Becoming. True, St. Thomas himself often gives the impression that he is unaware of the gap; at all events he always chooses to jump it by ejaculating "God." And this satisfies many men, but it never satisfies a scientist. It is he who is ever conscious of the gap. Galileo was proud to have shown that in the material events that he studied the continued interference of the First Cause was not a necessary postulate; but he humbly admitted that he knew nothing about the First Cause. He insisted that he was content to observe and measure; about ultimate things he refused even to speculate. In answer to any question about ultimate things he used to pronounce "that wise, ingenious, and modest sentence—'I know it not.'"[1]

But this admission of human limitations, which every scientist must acknowledge, is hard for a rationalist to make; for if he makes it he does not receive the emotional assurance he requires. To his directed thinking he must add some phantasy thinking, to make the picture complete; and he would rather forget what he has learnt from his observation of the external world than have the phantasy upset.

A scientist, on the other hand, is aware that the extent of his scientific knowledge must always be limited; for it is only gained from sense-impressions, and there is much that he cannot see, and much he cannot hear. Omniscience is therefore impossible for him, not only because his powers are limited, but because he can never know how much there is to know and can never tell if he knows all. Thus in the galactic system some stars, like Canopus and V Puppis, whose luminosity is said to be 10,000 times greater than that of the sun, are easily observed; but other stars, like Proxima Centauri, which is said to shine with about 1-10,000th part of the sun's luminosity, are hardly observable at all. There is no reason to think that Proxima Centauri is the faintest star that exists; it is quite near to us and has only recently been discovered. There are probably many other stars, fainter or more remote, that remain to be found. So our knowledge about the contents of the heavens must always be

[1] B. Willey, *The Seventeenth Century Background*, p. 21.

unsatisfactory, for we can never tell if it is complete or not. Space that appears to be empty may be not empty at all but partly occupied by undiscovered dark stars.

New forms of radiation, too, are continually forcing themselves on our notice, and it is probable that many more escape us entirely. Our eyes are tuned to the wave-length of sunlight, and there are probably many other wave-lengths to which neither our eyes nor our instruments are sensitive. But we can never measure either the extent of our knowledge or the depth of our ignorance; for we can never tell how much remains to be discovered. All we can do is to study what we perceive and admit our ultimate incapacity.

It is the same with sound, which is the effect produced in our ears by waves of a certain length. There are probably many other wave-lengths that produce no effect on our ears; then we say there is silence. But silence is only the absence of effect in our ears. If our ears were different—a dog's ears are different—we might be sensitive to a greater number of wave-lengths. Then there would be more sound and less silence. The sound would not be as we know it now but of a different calibre; and if our ears were sensitive to every wave-length (though how should we know?) there would be no such thing as silence; everything would sound. And the sound would be of such a calibre as to be indistinguishable from silence. Silence and sound, indeed, like darkness and light, and all similar dichotomies, are not real at all but human conceptions, based on the imperfections of the human senses, which are sensitive to only a small number of things that exist.

So our knowledge of Process is small and we can never tell how small it is. Since Reality does not make any impression on our senses we cannot think directedly about it. Nor can any scientist make any contribution to our knowledge of it; it is outside his scope. His opinion about the nature of Reality has no greater value than that of any other man however ignorant of Process. When Reality is being discussed, all a scientist, as such, can do is to say whether a suggestion accords or conflicts with what he knows of Process. But since he is only familiar with a fraction of Process his verdict is not valuable. If he does not recognize this limitation to his powers he immediately ceases to be a scientist and becomes a rationalist.

Theologians lay great stress on the influence and power of "supernatural forces." These also, whether they are the same as Reality or

not, are outside the scientist's scope; and here again we see the difference between the rationalist and the scientist. The rationalist, upholding the human reason as the sole source of knowledge, must withhold consent from the "supernatural." True, he often uses the word but in a different sense from the theologians; for he uses it to denote that part of Nature he does not yet know anything about. The scientist cannot deny that there may be other forces in the cosmos than those he studies. At any rate his observation of Nature tells him that there are several kinds of knowledge, of which scientific knowledge is only one. The difference between scientific knowledge and other kinds of knowledge lies in the method of its acquirement and in the test of its validity, which is pragmatic and not dependent on emotional satisfaction.

I emphasize that in his study of Process the scientist relies exclusively on sense-impressions. In the study of human affairs this is usually forgotten. It is possible to study human affairs in other ways than scientifically, but if the scientific method is adopted its rules must be kept. Most social anthropologists break them. True, the study of human affairs differs from most other sciences in that the student has to rely on evidence afforded by other men's descriptions of the sense-impressions they have received. Unlike the chemist, he cannot observe all the evidence himself. But, except for this, the technique is the same.

The reason why most anthropologists break this inviolable rule, and yet call themselves scientists, is that they have been taught to study "beliefs." These are not sense-impressions, but they occupy a prominent place in anthropological writings because the early source-books do not contain much information about anything else. Our Victorian forefathers were not always careful in their use of words, and the (to us) meaningless conception of "mankind" played a great part in their opinions about human affairs. They were also Christians and therefore thought that there had once been a special revelation of God to the Jews; and they expressed this historical event by saying that God had revealed Himself to "mankind." Thus, when they visited or came into contact with an uncivilized people, they were inclined to look out for evidence of this revelation. They did not always find traces of it; they reported that among those unfortunate natives the belief in the one true God was somewhat obscured by many superstitions. At other times they fancied

they had found some traces of a belief in "Jehovah" in triune existence.[1] But whatever they found they always wanted to know first what the natives thought. A knowledge of the one true God was essential to salvation, and in describing their experiences Victorian travellers and missionaries did not regard any other phenomena as possessing any importance at all.[2]

It was on such writings that Tylor founded his famous theory of "animism." Though, as a pioneer, he himself is readily excused, the same lenity cannot be extended to those who monotonously repeat his methodological mistake; and we cannot accept his theories which were based on that mistake. Mental processes, or "beliefs," cannot be directly observed; they are not sense-impressions; their nature can only be deduced from other data. I do not deny that they are important; they are of paramount importance. If we reduce an event in the cultural process to its final terms we find nothing but mental energy. In a similar manner if we reduce any material event, such as a star, planet, or chemical substance, to its final terms, we find nothing but material energy. But we never see this energy; we merely see what it has produced. Even so we never see the mental energy that creates the events in the cultural process; we only see its fruits. A cultural state is definitely a mental state; any cultural change is a mental change; but, just as the existence of the energy that lies behind the material world is a deduction from our observation of the perceptible events we call matter, so the existence of mental energy is a deduction from observed behaviour. After we have observed, described, and classified the various kinds of human behaviour, we can legitimately try to deduce from the assembled data the nature of the mental energy that lies behind the behaviour; but these conclusions can never have the same validity as those based on direct observations. In studying human affairs scientifically we must not only disregard our dreams about what "ought" to be, and cease to crave for ultimate knowledge; we must also concentrate our attention on the external world, our knowledge of which is gained by means of impressions made on our senses. What men believe, or profess to believe, is not evidence on which a scientist

[1] For some examples, see my *Sex and Culture*, nn. 415, 585, etc. See the refs. under "Beliefs" in the Index of that book. I discuss "Animism" in paras. 4, 62, 148. For the relation between mental energy and social energy, see paras. 160, 163.

[2] See my article, "Mulungo and the Anthropologists," in *Purpose*, vii (Oct.–Dec. 1935), pp. 165–76.

can work. Human behaviour is the only thing that can be directly observed, and in studying human affairs scientifically we must describe how men act; from this and this alone can we draw any acceptable conclusion about them.

The next point I have to make is a little more difficult, but it is not complicated, and, since it is essential to my argument, I crave indulgence for it from every rationalist.

Men who in the course of their scientific work think directedly soon find it necessary to distinguish between natural things and a state of nature. My submission is that human affairs have hitherto been in a state of nature. The experiment we are considering consists in an attempt to interfere with that state.

A state of nature is a state of prodigality. That, I suggest, is the chief reason why, when we study history, we find such waste. During the past five thousand years, at different points of time and space, human energy has been displayed in various quantities, but whatever its amount it has always been displayed in the manner typical of Nature in all her unaided work. Nature has grandeur; she is generous; but she is also most prodigal. How many seeds drop from a single broccoli at the end of the season? Hundreds of thousands, I believe, and perhaps one or two are fruitful next season. How many eggs does an insect lay in order to produce another like itself? Millions, I am told. And if a tract of land is left to Nature, what does she do with it? She produces either a vast tract of arid waste or such a profusion of forest and scrub that a human mind sickens at the sight of it. And if a man doubts what Nature is like let him cease to tend his garden for a year or two. He will soon find out.

Nature's energy is as astonishing and as marvellous as everything else in the cosmos, but she is also a dissipated and extravagant wanton, and in her control of human affairs she has behaved in her usual manner. Consider the energy expended in one European day; what cultural results ensue? Consider the Romans, what they did, their potential ability, their resource, their powers of mental formulation; out of the millions of *cives* that once existed, how many reached any cultural heights? The waste of human energy that has occurred in the past has been as great as the waste of broccoli seeds and insects' eggs. There has been much potential power, but little of it has been culturally productive. The reason is that culturally men have never yet emerged out of a state of nature.

It is the custom among rationalists to accept a state of nature as if it were inevitable. They even try to interpret it. In some moods they regard themselves as the unfortunate victims either of deities whose temper is uncertain, or of blind chance. In other moods they give themselves such strong mental medicine as Cleanthes' *Hymn to Zeus*, which in a weakened form becomes the saccharine of George Herbert. If they are not impressed either by the presence of a fatal doom or by the sweetness of their god, they invent a phrase like "survival of the fittest," and for their mental comfort accept it as if it contained an ultimate truth. All such philosophies merely describe a state of nature which has hitherto existed in human affairs, but which need not exist any more than it still exists in the Sussex weald. When Nature had the Sussex weald she made it a dark massive forest. It was men who tamed it and made it as it is now. When people observe a European countryside and admire what they call Nature, they are not admiring only Nature but what men have made of natural things.

In the past, since human affairs have been in a state of nature men have only climbed up the cultural ladder by standing on other men's shoulders, thus forcing these down. For every advantage there has been a corresponding disadvantage. Many have had little; few have had much. High culture has only been possible because it has been supported by slaves.

Observing these simple facts our rationalists have spoken dreamily of the human comedy or of the human tragedy, according to their temperaments. When we contemplate the events of the past five thousand years our comments only apply to human affairs in a state of nature. It is Nature's habit to impose handicaps on her progeny; she apparently finds it impossible to work in any other way. The flower is throttled by the weeds; the large tree thrives at the expense of the little one; and in the past the creation of a few energetic men has involved the abasement of a hundred other men. But such a state of affairs is not inevitable; it is merely Nature's way of doing things. If we wish, we can interfere in the cultural process in the same way as we have already interfered in the material and biological processes. It is just as possible to create human energy intensively as it is to grow tomatoes intensively. Our experiment is an attempt to do so. We are going to interfere with a state of nature by creating in the cultural process an event that has never occurred in that state.

There is nothing unnatural about this. Nature works in compartments (matter, life, mind), and in one compartment is herself continually interfering with her own work in another compartment. By behaving quite naturally the events in the biological process introduce into the material process many changes that would never have occurred if the biological process did not exist. Similarly, the events in the cultural process introduce into both the material and biological processes many changes that would never occur if the cultural process did not exist. Indeed, the cultural process might be defined as the extent to which men interfere in Process.

The Wisdom of Solomon (v. 8–13, R.V.) contains these words: "What did our arrogance profit us? And what good have riches and vaunting brought us? Those things all passed away as a shadow and as a message that runneth by. As a ship passing through the billowy water, whereof, when it is gone by, there is no trace to be found, neither pathway of its keel in the billows: or, as when a bird flieth through the air, no token of her passage is found, and afterwards no sign of her coming is found therein: or, as when an arrow is shot at a mark, the air disparted closeth up again immediately, so that men know not where it passed through: so we also, as soon as we were born, ceased to be."

This passage is typical of a certain kind of rationalistic "wisdom." True, our senses are too crude to perceive the difference after the passage of the ship, the bird, the arrow, but the difference is there. We also, after we are born, may cease to be; but the world can never be the same as it would have been if we had never lived. If God is the force hypothesized as responsible for Process, then it is scientifically certain that every atom, every organism, and every human being matters to God; for every one of those things makes a contribution to the events that constitute Process.

After a whale or even a sprat has swum through the sea, the atoms composing the sea never re-assume their original positions; the material process has been disturbed by an event in the biological process. When a lion roars, a nightingale sings, or a human being laughs, the air vibrates, and the atoms composing it never again return to the position they occupied before the organism, manifesting its natural powers, emitted waves of sound. When a turtle makes a hole in the sand to deposit its eggs, or a bird collects fluff to make its nest, each disarranges an event in the material process

which can never be the same again. Every event in the biological process, itself a natural thing, continually interferes with a state of nature in the material process. Nature, working in one compartment, interferes with her work in another compartment.

In this she is ably assisted by men, themselves a part of Nature. Men introduce changes not only in the material but also in the biological process. Delighting to display their natural powers they subdue the earth, raze the forest, struggle against the seas, and control fire and air. They disturb the lives of other organisms for the mere pleasure that such disturbance gives. They also flay them for their hides, mould their bones, hooves, and horns into new shapes, and domesticate any organism that happens to suit their fickle fancy. They even create in the material and biological processes events that do not occur in a state of nature.

Take the biological process first. A horse is an event in it; but horses like Ormonde, Windsor Lad, and Bahram were the result of our interference with it. There was nothing unnatural about them, but they never occurred in a state of nature. They came into existence because energetic horse-breeders, behaving quite naturally, decided to interfere with a state of nature.

We also create new events in the biological process when we breed our pedigree bulls, and throughout the world to-day there are fine Hereford cattle with their white heads and square bodies. But they were never produced in a state of nature; they only exist because cattle-breeders have interfered with a state of nature. And, should the breeders cease to interfere, Hereford cattle will lapse into what they were before men controlled their breeding.

We also create new events in the biological process when we graft trees or produce peaches out of season, or remove the topsoil from a piece of ground and plant pear-trees close together in rows and cut them short so that they yield less wood and more fruit. We sometimes take a biological event and create out of it a new material event, as when we make trees into pulp and push this through small holes and turn it into silk. Indeed, we may say that the extent to which men interfere with a state of nature in the biological process is only limited by the amount of their energy.

But on the whole even we, who are more energetic than most societies, have not yet interfered in the biological process very much; probably because our biologists have been so interested in

the past history of organisms that they have not had time to study sufficiently the behaviour of existing ones. The way in which we interfere in the material process, though we do not yet interfere much, is more impressive.

Here again we do not alter the nature of things; that is impossible. We simply produce events that do not occur in a state of nature. Thus steam is a natural event and occurs in a state of nature; but steam-engines are the result of our interference with a state of nature. There is nothing unnatural about steam-engines; they are a human creation.

Displaying our inherent powers we take a number of material things, alter their shape and position, and produce an object (or event) which Nature never produced.

We also interfere in the material process when we turn sound-waves into light-waves, and broadcast our voices so that they can be heard almost immediately, anywhere, by anyone who has an instrument which turns the light-waves back into sound-waves. There is nothing unnatural about a microphone or a wireless set, but they do not occur in a state of nature where sound-waves remain sound-waves. Microphones and wireless sets are a result of our interference with a state of nature. And every engine we create, every instrument we use, every machine we build, and every application of "science" in human life is nothing more or less than the introduction by men of a new changing event into a process which itself consists of changing events. The point to notice is that most of the events created by men do not occur in a state of nature.

But, though we continually interfere in the material and biological processes, we have never yet interfered with the cultural process. So human affairs are still in a state of nature. Instead of using our inherent powers and controlling our cultural fate, instead of displaying courage and resolution, we go on hoping; though what for we do not always know. Human affairs will remain in a state of nature till we change our mental habits.

Strangely enough, few men have ever contemplated the possibility of interfering in the cultural process; and the reason, I fancy, is to be found in the fact that we have only studied human affairs rationalistically.

On the rare occasions when the rationalist shakes himself free from his phantasies and thinks directedly about Process, he always

makes one profound mistake. Honesty demands the admission that many scientists, particularly physicists and biologists, are often guilty of the same mistake. Some theists are aware of the mistake, to which Archbishop Temple has recently called attention.

The point about Process that the rationalists miss is a simple one, namely, that we are part of Process. So foolish an error is committed partly because of the loose way in which simple words like "cosmos" and "universe" are often used.

Some thinkers, referring to the universe, speak as if there was only one. Others apply the word to the galactic system, regard each nebula as a separate universe, and dazzle themselves, and try to dazzle us, by speaking of millions of universes. Others still, journalistically minded, aim at variety in preference to precision and speak at one time of the cosmos and at another time of the universe, as if they were identical. And all of them, whether they speak of the cosmos or of the universe, implicitly claim to be speaking of everything that exists. Yet they invariably imply that the universal or cosmic process is something outside themselves who are mere spectators of it. It is there the error lies. By virtue of our inherent nature we can reflect on ourselves and on the phenomena around us; but, as the biologists have often pointed out, we ourselves are part of some process. If we regard the universal or cosmic process as consisting of the totality of things, we may not think of it as something outside ourselves. If we regard it a something outside ourselves, we are not speaking of all that exists, for we neglect the process of which we form a part.

So far as we can judge from a study of the available data, there was a time when the material process was and the biological process had not yet begun. Life then appeared on the earth. Similarly, there was a time when life was on the earth but the cultural process had not yet begun; for consciousness had not yet appeared in any organism. Then came the human species. But Process did not stop there; it still goes on; and we are part of it. The forces responsible for Process produced all of us. We are what we are, we act as we act and we think as we think because we were born at a certain time at a certain place. This point is of overwhelming philosophical importance. As Temple has said, "It is the besetting sin"—he is surely right not to mince his words—"of philosophy to take cognition as the initial form of apprehension and to seek to evolve the

other forms of apprehension, such as appreciation, from this." It is this assumption, he adds, "that gives such plausibility as it possesses to the notion that we begin with our mind and its ideas and then from these advance to knowledge of the external world by inference." Hence comes "the whole farrago of Subjective Idealism, Pre-established Harmony, Psycho-physical Parallelism, and other outrages upon common sense."

Certainly there seems to be no escape from such philosophy if the priority of cognition is assumed; but the assumption is proved false by all we know of the past events in Process. Of all philosophies subjective idealism is the one no scientist can ever hold. If he does we may conclude that his phantasies are so strong as to fill his mind completely to the exclusion from it of all remembrance of the facts which in his moments of directed thinking he must admit are true. Every man is entitled to his phantasies, but he may not say that they are based on observation of the external world. As a philosophy, subjective idealism may give emotional satisfaction to many a disunited heart, but to every directed thinker it is phantasy run mad; for there is one thing on which all scientists agree, namely, that the cosmos was extant before mind appeared to apprehend it. As Temple puts it, "Apprehension takes place within the world, not the world within apprehension." [1]

I have no comment to make on the mystery of consciousness but humbly accept its existence. I do not know, neither does any man, how the same thing can be subject and object at the same time. All I know, and all any man knows, is that it is so. And, because consciousness exists we can interfere in the cultural process, even though our behaviour in doing so is part of it.

But, to interfere with it, we must be careful to employ the correct scientific method; and it is at this point that I have to distinguish between the three kinds of science to which I referred on the first page of this chapter, and which I call historical, inductive, and mathematical.

When a scientist struggles to shake himself free from the mental habits of rationalists he is behaving like any young organism which is trying to shake itself free from its mother, to live its own life. For, just as a rationalistic state emerges out of a deistic one, so a scientific state emerges out of a rationalistic one.

[1] W. Temple, *Nature, Man and God*, pp. 109, 111.

When men are in the deistic state they think that the world is under the control of a god or gods; and they divide the events of their experience into the normal and abnormal. Anything that comes within their normal experience is accepted without question; anything unusual or unaccountable is ascribed to the god or gods ("act of God").[1]

Men who think like this do not inquire into the nature of things. Indeed they regard such inquiries as unprofitable. If pressed, they smilingly draw attention to the many mysteries of human existence. But if the society becomes energetic enough to produce a rationalistic stratum there is a mental revolution among the members of that stratum who discard the division of events into normal and abnormal and substitute a conception of the "natural." Fierce mental energy, curiosity, and a contempt for the mental processes of their deistic brethren are the chief characteristics of their minds. They ask such questions as Why? Whence? Who made it? What is it made of? And if the society remains energetic there appears a group of men who devote their lives to collecting the evidence on which satisfactory answers to these questions may be based.

Willey has suggested that such questions as Why? Whence? Who made it? are not really questions at all but requests for emotional assurance.[2] But for this very reason some answer is necessary, and when scientists first begin to appear the most talked-of ones are the historical scientists, who supply some sort of answer. These scientists do not examine structure and record behaviour; they seek for origins.

I call them historical scientists because they study the past history of Process; that is, the changes that occurred at points previous in the time-dimension to the one they themselves occupy. Thus an astronomer is a historical scientist when he formulates a likely theory about the way the solar system was formed. A geologist is a historical scientist when he tries to reconstruct the changes that have occurred in the state of the earth. A biologist is a historical scientist when he submits a hypothesis about the way in which organisms arrived on the earth's surface. And hitherto the cultural process has been almost exclusively studied in this manner. The shelves of our libraries are packed with large books about the

[1] For a discussion of the evidence, see my *Sex and Culture*, paras. 146, 148.

[2] B. Willey, *The Seventeenth Century Background*, p. 12.

origin and evolution of speech, agriculture, religion, and other such things.

But to a developed mind historical science is an unsatisfying occupation, and there can be no doubt that Willey is right when he says that the questions that rationalists ask are the same as those that children ask. There are some things to which the human mind can give no definite answer, and an adult thinker is inclined to pass them by in favour of the ones he can answer. Besides, hypotheses about origins rest on so insecure a basis that the smallest addition to the available evidence often upsets them. The imaginative reconstruction of the past may have an emotional value for its author and for those of similar temperament; the theory may also have some academic value in so far as it summarizes helpfully what we know about the past; but it has no greater value than this. No historical scientist, as such, yet gave to men of unlike temperament any assistance in the living of their lives. At our dinner tables we may delight in discussing the rival theories of Joly and Wegener; but up to now geologists have done little to help the farmer with his crops.

At the same time we must admit that in a rationalistic age historical science is popular; historical scientists are sure of a good press. And it is not hard to understand why. Having discarded the priestly dogma, people look for an alternative. They also wish to be reassured. When a geologist constructs a theory how the seas were separated from the dry land, does he not imply that the first chapter of Genesis is indeed nonsense? When a biologist says that life emerged out of matter, does he not insert another nail in the coffin of Semitic folk-lore? Exactitude in thought and expression is not the most prominent quality of anthropological and psychological literature; but it is much talked about; for "the people" now like to be assured that every religious belief is indeed a phantasy, every priest a fit subject for the psycho-therapist, and every religious rite a manifestation of a neurotic symptom. In our own society the character of the rationalistic rebellion was greatly affected by the claims of the Christian priest to be the final judge not only of human conduct but also of every truth. So our rationalists have devoted much attention to debunking the Bible and other sources of Christian dogma.

Till recently the biological process was studied almost wholly from the historical point of view. For this reason biology became

the most popular of all sciences; it discussed the things that "the people" wanted to be reassured about. How many young women, murmuring "protoplasm," have smiled contentedly to think that at last they knew everything about the origin of life! Their daughters perhaps are a little disappointed to find that nowadays few biologists worry their heads about such things. They follow Gray in thinking that "matter in its living state possesses characteristics fundamentally different from those of inanimate objects"; and they leave the matter there.[1] At any rate they no longer pretend to understand wherein the difference lies. They have ceased to use historical and now use inductive methods, accepting the advice of Bohr, who recently said: "The existence of life must be considered as an elementary fact that cannot be explained but must be taken as a starting-point in biology, in a similar way as the quantum of action . . . taken together with the existence of the elementary particles, forms the foundation of atomic physics." [2]

This change in biological methods has meant, of course, a loss of popularity. Biology to-day is too technical for the plain man, whose thirst for emotional assurance is now satisfied by the astronomers. Some astronomical measurements do not seem any more exact than a biological definition of "life," but they are grand things to talk about, and, while the astro-physician dies unknown to the mob, the astronomer who shows in what form he thinks the cosmos began, how it is now expanding, and in what form he thinks it will end, easily compels attention.

Such popularity is a great sacrifice to make. Moreover the search for origins is a fascinating occupation. But, for the purpose of our experiment, we must make in the study of the cultural process the same change as the biologists have recently made in their study of the biological process. This is not simple. Just as the physicist takes for granted the existence of such phenomena as energy quanta and entropy; just as the biologist takes for granted the existence of life; so we take for granted the existence of human societies and the unique powers that enable them to display their unique energy. Our early attention is confined to the conditions under which the energy is displayed and the results that ensue when it is displayed.

[1] J. Gray, Presidential Address before Section D (Zoology), *Brit. Ass. Adv. Sc.*, 1933, reprinted in *Nature*, cxxxii (Oct. 28, 1933), pp. 661–4.

[2] N. Bohr, in *Nature*, cxxxi (April 1, 1933), p. 458.

Compared with historical methods, such inductive methods are dull. Indeed, to the uninstructed spectator the inductive scientist often seems to be an innocent kind of chap who plays about with gases, Bunsen burners, and chemical substances, and who rarely has a startling theory with which to excite us. Yet he is the man who enables us to create a new event in Process.

He takes his raw material and subjects it to the influence of different conditions. Under some conditions, he observes, it behaves in one way; under other conditions in another way; and under the same conditions always in the same way, having apparently no choice in the matter. It is as a result of these simple operations that the inductive scientist becomes a creator; for he can obviously make the material behave in any way he likes if he knows the conditions under which it behaves in that way.

Take a simple example. Some years ago an observer perceived that water behaves in different ways according to the conditions to which it is subjected. If its temperature is reduced, it becomes ice; if heated, steam. Moreover, under those conditions it always behaves in the same way. So the observer concluded that when he wanted steam he could get it by heating water. The essential result was the creation of a steam-engine. When water becomes steam, the molecules fly apart and exert a pressure on anything that contains them. So the "inventor" made them expand into a cylinder, in which he placed a piston. The piston was attached to a shaft, so when the molecules expanded they pushed the piston away, and the shaft revolved. This motion was transferred through an axle to a pair of wheels and a steam-engine was the result.

Since the original discovery was made we have increased the efficiency of the steam-engine by enlarging the boiler, increasing the pressure, making the piston of different materials, and in various other ways. But these subsequent alterations are mere extensions and modifications of the original design, the principle of which is still retained. This principle is that when water is heated it expands. Thus we can always make it expand by heating it. In a similar manner we discovered about forty years ago that when a certain oil, which used to be thrown away as useless, is compressed and fired, it explodes. So we now put a piston inside a cylinder and attach it to a crankshaft. When the petrol mixture explodes inside the cylinder the piston is driven downwards and the crankshaft revolves.

The internal combustion engine is the name which we give to these results.

Since the first internal combustion engine was made, the design has been elaborated; the method of introducing the oil into the cylinder has been refined; different materials are now used for the piston; and so on. But all this is merely an extension and modification of the original principle, which remains the same. This principle is that, when petrol is compressed in a cylinder and fired, it explodes.

We may sum the matter up by saying that the behaviour of natural, observable events is uniform. This is not an assumption on which inductive science is based but a necessary deduction from observed behaviour. The scientist first observes that a material substance always behaves in the same way under the same conditions; he then performs an act of faith and assumes that under the same conditions the substance will continue to behave in the same way as it has been observed to behave in the past. He becomes a creator by subjecting the material to such conditions as will produce the behaviour he desires. A new event in the material process then emerges.

So far as an interference in Process is concerned, this is the only method that can be successful. We see it daily. When we create a self-propelling vehicle, or build a ship that travels beneath the sea, or erect a microphone to carry our voices at the speed of light to all parts of the earth, or make a machine or engine of any kind, we simply place parts of the material world into such a relation to one another that their behaviour yields the results we desire. We only know how they will behave because we have studied the way they have behaved in the past; and we can only use our knowledge because we have faith that under the same conditions the material will continue to behave in the same way as it has always behaved. Observation of the external world shows that this is true, and on this simple truth all scientific creations depend. The use of any scientific knowledge demands that we believe that in the future under the same conditions a natural observable event will continue to behave as it has always been observed to behave in the past. The performance of this act of faith is the necessary precursor to the use of any scientific knowledge. If a man hesitates to perform it he thereby confesses his lack of faith in the scientific method.

I emphasize that the act of faith is justified by the result which

is the only scientific test. We perform the act every day and have become so accustomed to it that we are almost unconscious of what we are doing. If water did not always expand when heated railway time-tables would be useless pieces of paper. But it always does expand when heated; so we are right to trust the time-tables. So great is our faith in the uniformity of the water's behaviour that we are even irritated if our train is late. And if it breaks down we do not even contemplate the possibility of the water behaving in a different way. Instead, we conclude, quite justifiably, that the fault is not a natural but a human fault and that there is something wrong with the engine.

Every time a housewife puts a kettle on the fire she expresses her implicit faith in the same fact. She has no guarantee that water when heated will behave in the same way as heated water has always behaved in the past; but she believes that it will do so, and she is never disappointed. So great is her faith that if the water does not expand she concludes, quite rightly, that she has not heated it enough. The idea of its failing to expand when heated enough never enters her head. And her great faith is justified.

The success which has attended the use of the scientific method has caused inductive scientists to develop a technique peculiar to themselves. In this technique there are three distinct steps.

To discover how an object (or event) behaves it is isolated. The only thing that the scientist has to be careful about is the act of isolation which must not affect the behaviour of the object. Having isolated the material the scientist records how it behaves under different conditions. This information is reduced to a formula called a law.[1]

A word about scientific laws. They are not operating forces but human conceptions; short, convenient ways of describing natural behaviour. They have no guaranteed validity. Strictly, they only describe the behaviour of the event whose behaviour has been studied, but they are usually taken to apply to all events of like substance. They do not apply to events of a different substance and only hold good in the given conditions. To use them, we must perform the great act of faith I have mentioned. The laws themselves are nothing more than succinct summaries of the way things have

[1] In saying this I wish to acknowledge my indebtedness to Professor H. Levy, who has discussed these matters in his *The Universe of Science*.

been observed to behave in the past; but since the behaviour of natural observable events has been proved to be uniform, we can by the aid of the laws predict how the events will behave in the future. It is this power to predict that enables the scientist to become a creator; he controls the future by his knowledge of the past. The law he has formulated tells him the conditions to which he must subject his material to obtain the results he desires; and the creation of those conditions is the third step in his technical process.

In a similar manner, to control the behaviour of the human society, we first study the way human societies have behaved in the past. That is the first step. Having done this we decide how we want any given society to behave in the future. That is the second step. We can then make it behave in that manner by subjecting it to the appropriate conditions. After we have created these conditions a new event in the cultural process will emerge.

It is now plain why I craved indulgence for my standpoint. Most philosophers will be thinking that I have put human affairs into the chains of determinism. And this at a time when some scientists are declaring that there is no determinism in the physical world. The scientists who now declare for indeterminism in the physical world base their conclusions on the study of unobservable phenomena. I have been careful to say that my remarks only apply to observable ones. Moreover, those scientists seem to think that determinism means mechanistic materialism. But the truth is that determinism, like any other "ism," is a rationalistic conception, and like all such, has many meanings. When I say that the behaviour of a natural observable event is determined I mean that it has no choice but to behave in the observed manner.

That there is an element of determinism in human affairs seems plain. But this does not imply the absence of free-will. It is the behaviour of the society that is determined. I discuss the matter in the fourth chapter. A further note on Determinism will be found in the Appendix.

CHAPTER II

Human Energy

(*a*) HISTORICAL EVIDENCE

(*b*) ANTHROPOLOGICAL EVIDENCE

(*a*) HISTORICAL EVIDENCE

SEVERAL years ago the analytical psychologists suggested that when the social regulations forbid direct satisfaction of the sexual impulses, the emotional conflict is expressed in another way, and that what we loosely call "civilization" has been built up by sacrifices in the gratifications of innate desires.

In support of this startling conjecture no cultural evidence was presented, and I thought it would be worth while to investigate the matter.[1] Adopting a strictly inductive method, I selected for detailed examination as large a number of societies as possible and included within my survey every society about which the available information was adequate and trustworthy.

The available material was of two kinds, historical and anthropological. I began with the former, but I soon found how scanty the historical evidence was. In order to discover whether or not sexual regulations influence human behaviour I needed two sets of data: I wanted to know, first, how a society had behaved, and, secondly, what kind of sexual regulations it had adopted. One set of data was useless without the other, and the most superficial inquiry soon revealed in how few cases the available evidence could be regarded as adequate.

We possess a fairly full knowledge of Babylonian law before 1800 B.C.; we also know something, though less, about Sumerian law; but no Egyptian law-code has yet been recovered, and, though our supposed knowledge of Egyptian history extends over 3,000 years, there are many large gaps in the record and a complete lack of detailed information about the conditions that prevailed in any

[1] My *Sex and Culture* contains the results of the investigation.

particular century. We know a little about Assyrian law and behaviour, but our detailed knowledge, such as it is, is almost confined to the post-Sennacherib epoch. Similarly, we also know a little about the early Ionian Hellenes. I included the Athenians in my first list, but no one realizes better than I how ignorant we are about Athenian law and about the conditions that prevailed in Athens before the fifth century. The other branches of the Hellenic race, Dorians, Achaeans, and Aetolians, could not be included. We know almost nothing about Dorian Sparta except through Athenian writings, and it is uncertain whether the behaviour of the Achaeans is accurately reflected in the Homeric poems. I included the Arabs, but I regarded even this as a trifle risky, though we certainly know more about the early Arabs than about the early Chinese. As for the Cretans, Hittites, and Neo-Babylonians, the evidence about them might possibly be used to support a conclusion based on more complete evidence, but it was not good enough to act as a foundation of an inductive argument.

Early in my inquiry, therefore, I found myself left with only six historical societies, Sumerians, Babylonians before the Kassite domination, Athenians, Arabs (Moors), Romans, and Teutons (ourselves). This seemed too narrow a scope for what might be an important investigation.

The extent of the historical evidence was also reduced by another factor.

The psychologists have taught us, and no man now disputes, that the behaviour of an adult human being is, to a varying extent, the result of an interplay between past and present emotions. Just as a state of neurosis is often produced by the conflicts and emotions of childhood, so the behaviour of a "normal" person is greatly affected by unconscious tendencies which are a reflection of the infantile experiences. Our early experiences, we must believe, have an immense, if not a dominating, influence upon our adult behaviour. They influence, if they do not create, our subsequent dispositions, and affect, if they do not control, the reception we give to any idea, suggestion, or course of action. And their character depends greatly on the behaviour of the previous generation. But the way in which the members of the previous generation behave depends greatly on the nature of their early experiences, which in its turn depends on the behaviour of that previous generation, and so on back to the

earliest origins of the society. The cultural process is continuous, and on the strength of the psychological evidence we must assert the indubitable power of the inherited tradition. Thus it is reasonable to suppose that if, as the psychologists have suggested, there is really some relation between sexual regulations and human behaviour, the behaviour does not depend on the sexual regulations that prevail now but on those that prevailed in the two previous generations.

The significance of this for my inquiry is obvious. To investigate what effect, if any, different sexual regulations have on human behaviour, I should have to see what regulations had been adopted and then observe and record the behaviour of the society about a century later.

To take a concrete instance. If the psychologists were right, such behaviour as the sudden uprising of the Huns in the fifth century and of the Mongols at the end of the twelfth century should have been due to a checking of sexual impulses, at any rate so far as the leaders of the expansion were concerned. So should the behaviour of the Athenians who built the Parthenon. But in each case the behaviour could not have been due to the nature of the sexual regulations the men themselves enjoyed or suffered. The important factor would be the nature of the regulations that prevailed in the time of their mothers and grandmothers.

In many cases, especially in the case of societies which collapsed soon after a period of expansion, this is not known.

We know roughly what sexual regulations the Mongols, Persians, and Macedonians had at the time of their great expansion, but we do not know what regulations they had in the two previous generations. When our information is complete about any historical society, the first thing that strikes us is that its sexual regulations constantly changed as century succeeded century. So we should expect to find similar changes in these societies. But we are ignorant about their customs before they arrived in the historical arena; so no conclusion about them is possible. The only way in which the societies could be of use to my inquiry was in the recording of the regulations they had when we first got to know them and then observing how they behaved in subsequent generations. But this vague evidence did not appear to be very valuable.

The evidence from the best-known societies, though scanty, was impressive.

On examining their sexual regulations I found that when the Babylonians, Hellenes, Romans, and Teutons first appeared in history, they regulated the relations between the sexes in a similar manner, which I called *absolute monogamy*.[1] We also find traces of the institution among the early Sumerians, and there is much reason to believe that they also were at one time absolutely monogamous. The *ba'al* marriage which the Arabs adopted in the generations which immediately preceded the birth of Mohammed conformed to the same pattern; and the idea of absolute monogamy has been preserved in modern times by those Christian sects which have placed a literal interpretation on the opinions of Paul. Paul spent his early years in a Romano-Jewish environment; in each case the ideas he absorbed were those of absolute monogamy, which consequently became the rule in England, particularly among dissenters, after the sixteenth century. In the centuries that immediately preceded the sixteenth century, canon law prevailed.[2] This was quite a different affair, not only from the post-reformation law but also from the law that prevailed before the Norman Conquest.

It is strange how the idea of absolute monogamy repeats itself through the centuries. There is no question of the various societies influencing one another. In the course of 5,000 years absolute monogamy has been adopted by many different societies, in different climates, and at different times. Thousands of years and thousands of miles separate the events, between which there is no apparent connection; and the behaviour which has accompanied or followed the adoption of the institution is equally noteworthy. When the evidence is complete we find that adoption of absolute monogamy has always been followed by a type of social behaviour which I call *expansive*. Expansive energy has never been displayed by a society that inherited a modified monogamy or a form of polygamy. When the evidence is complete we see that an expansive society has always adopted absolute monogamy. There is no recorded case of a society adopting absolute monogamy without displaying expansive energy. Whenever the evidence is complete we see that a society, on arriving in the historical arena, was regulating the relations between the sexes in this particular manner.

By expansive energy I mean the urge to expand beyond the boundaries of a habitat. Ardent men begin to explore new lands

[1] See *Sex and Culture*, paras. 167 f. [2] For notes on *Canon Law*, see Appendix.

which hitherto have remained unvisited because the necessary urge to explore has been absent; commerce is extended; foreign settlements are established, colonies founded. If less energetic societies bar the way to its expansion, the expansive society subdues them, occupies their lands, and demands tribute.

This kind of behaviour must be distinguished from what is sometimes called "aggressivity." An expansive society only takes aggressive action if another society lies in the way of its expansion. The voyages of Captain Cook and of the ship *Duff* are examples of expansive energy, but their purpose was not aggressive. In the past most expansive societies have had to fight for their new lands, but there are some examples of societies which have not been compelled to do so.

Parenthetically, so far as social behaviour is concerned, I have found in human records no support for the suggestion that aggressivity is due to compulsory continence. If cattle-raids, head-hunting, and bloody conflicts between related groups are examples of "aggressivity," such aggressivity cannot be due to compulsory continence, because many societies which behaved in that manner have suffered from few sexual checks, and sometimes from none at all. The Masai are an example.

When we examine the subsequent behaviour of the expansive societies I am talking about, we find that it varied accordingly as they preserved or discarded their absolute monogamy. But there is no record of any society preserving its absolute monogamy for very long. If the institution appears to have survived longer in some cases than in others, this is because it had been adopted in succession by different groups within the society. Leaving aside this complication for a moment, we find that every society which has adopted absolute monogamy has been dissatisfied with it, and has either abandoned it in favour of polygamy or revised the whole method of regulating the relations between the sexes. The former is what happened among the Arabs; the latter was the case among the other five societies.

When absolute monogamy is the rule marriage is not a union between two equal partners but a means whereby a man secures domestic labour and heirs of his blood. His marital and parental authority is complete; in the eyes of the law he alone is an entity. A wife is not permitted to withhold conjugal rights from the man to whom she was married as a virgin; and when absolute monogamy is

introduced, female chastity soon becomes desirable for its own sake, for the women, before long, accept as a point of honour the new restraints imposed upon them by their lords. We can almost watch this process among the early Arabs in the generations which preceded the birth of Mohammed; and this was the idea of marriage which prevailed among the early Sumerians, Babylonians, Hellenes, Romans, and Teutons. It was reintroduced into England again in the sixteenth century.

But absolute monogamy is plainly an unequal bargain; and in every case, if the society had remained monogamous, there was a movement to emancipate married women. In one case, that of the Athenians, the movement was unsuccessful, but the decree of 451 B.C., the law of the *epicleros*, and the presence of the Outlander women (as Professor Zimmern calls them) satisfactorily explains this exception to the rule. In every other case married women were promoted from a state of complete subjection to that of free and equal citizens, and were finally able to hold and dispose of property, to trade and to contract, and to take their place in society on a complete equality with men. Sometimes, as among the Babylonians and Anglo-Saxons, the legal changes were made by a series of separate enactments; at other times, as in Rome, by a somewhat violent change in legal premises; but the changes always conformed to the same pattern. The Sumerians introduced them before being dominated by the absolutely monogamous Babylonians; the Babylonians in their turn before they fell under the sway of the Kassites; the Romans when they discarded the *ius civile* for the *ius gentium*; the Anglo-Saxons between the seventh and tenth centuries; and with us the changes have taken place during the past three centuries. Changes qualified the parental as well as the marital authority, and the modification of these authorities was always accompanied (except in the case of the Anglo-Saxons) by the reduction of marriage to a temporary union made and broken by mutual consent. In this manner the post-nuptial sexual opportunity of these societies was extended; in most cases the demand for pre-nuptial continence was also relaxed; and the historical fact is that, as soon as these habits became part of the inherited tradition of a complete new generation, the energy of the society decreased and then disappeared. In human records there is no instance of a society retaining its energy after a complete new generation has inherited a

tradition which does not insist on pre-nuptial and post-nuptial continence.

At the beginning of its historical career each of the historical societies I have mentioned had the same ideas in regard to the relations between the sexes. Then, if it retained its monogamy, the same struggles took place; the same sentiments were expressed; the same changes were made; the same results ensued.

I have said that our society is now in a state of nature. By this I meant that there is nothing new about what is happening here now; we are merely reacting in the natural way to a set of circumstances which have prevailed in the past and to which other societies have reacted in the same way. The changes we are making in our method of regulating the relations between the sexes is an example. I offer no opinion about the rightness or wrongness of those changes; such questions do not arise. The point is that they are apparently inevitable. The reformer imagines that he introduces the changes, but actually they occur at their due point in the cultural process, and Time uses the reformer as its mouthpiece. Till we understand this we shall not understand the cultural process at all and therefore we shall not control either it or our own fate, which is part of it. "Modern" opinions about what relations between the sexes "ought" to be are simply our middle-class opinions which the aristocrats expressed two hundred years ago; but the ideas were not new then. The Sumerians held them in the twenty-third century B.C., the Babylonians in the twentieth century B.C., the Athenians in the fourth century B.C., the Roman patricians in the second century B.C., the provincial bourgeoisie of the Roman Empire in the second century A.D., and the Anglo-Saxons in the tenth century A.D.[1] If we fail to recognize this we shall fail to understand ourselves. Contrary to popular opinion, married women are not now so "emancipated" as they were in the days of Canute, when a wife not only enjoyed full legal equality with her husband but was also regarded, together with her children, as having a definite claim on her husband's estate. Between the tenth and sixteenth centuries our married women lost their legal rights and have not yet recovered all the privileges enjoyed by their Anglo-Saxon sisters. It is

[1] For sexual regulations of the Anglo-Saxons, see *Sex and Culture*, paras. 161, 167, 168, 172.

the Whig superstition of continual "progress" which has made our historians neglect these facts.

We even find the rebellion against absolute monogamy being repeated by class after class. Among the Romans the provincial bourgeoisie preserved the old Roman tradition for some time after the people in the city had abandoned it, and the provincials themselves abandoned it after they had succeeded to the domination of the Empire. Similarly, the women of our old aristocracy began to rebel in the seventeenth century, and in the Restoration plays female emancipation is a theme that constantly recurs. But at that time the middle classes preserved their absolute monogamy without complaint. It was not till the eighteen-sixties that the middle-class women began to get into the same psychological condition as their aristocratic sisters of two centuries earlier. Then they began to produce their Lady Winchilseas, their Millaments, and their Angelicas.

If we examine more closely the societies about which the facts are really extensive and complete (which actually means the Romans and ourselves), we perceive not only that these were socially stratified but also that the different strata often had different sexual regulations. This was certainly the case among the Romans at most periods of their history. Before the fifth century the patricians and plebeians regulated the relations between the sexes in quite different ways; after the fifth century the plebeians discarded their old habits and adopted the patrician ones, which were more strict. This increase in compulsory continence among the plebeians was followed by an increase in their energy. Similarly during the first century A.D. the provincial families were preserving the old customs which the inhabitants of the city itself were discarding. In the second century these provincials dominated the Empire. Then they also began to discard their old habits. Meantime, there arose a group of Christians who revived, with certain additions, the old rules of continence. In spite of being persecuted this group had the energy to survive, and, early in the fourth century, dominated the Empire in its turn.

Here again we have to notice the way events occur in a state of nature. Time is in control, and the length of any epoch can almost be mathematically predicted. There is no virtue in the space of time we call a year; it is merely the length of the earth's journey

round the sun; but allowing a year or two for varieties within the pattern and speaking for the sake of lucidity in round numbers, we perceive that in the past groups have dominated their respective societies for the same number of years, few more, few less. The number has been one hundred and fifty, about five generations. Moreover, every three hundred years, or every ten generations, there has been a great change in the behaviour of the society. This period separated the traditional foundation of the Roman city and the publication of the XII Tables; the XII Tables and the Gracchi; the Gracchi and the limited monarchy of the Antonines; the Antonines and the break-up of the West; the break-up of the West and the accession of Zeno, "Later Roman Empire."

About every one hundred and fifty years there was also a change in the social element which dominated Roman society. Again allowing a year or two for varieties within the pattern, this period of time separates (1) the XII Tables, which gave the same law to all the villagers, and the Lex Hortensia, which finally established the legislative authority of the plebeians; (2) the Lex Hortensia and the Gracchi; (3) the Gracchi and the dominance of the Julii; (4) the dominance of the Julii and the Antonines, who were supported by the provincial bourgeoisie; (5) the Antonines and the Edict of Milan; (6) the Edict of Milan and the accession of Zeno; (7) Zeno and Heraclius.

Our own historical career divides itself into definite well-marked periods of the same length. Every ten generations there has been a complete change in our behaviour; every five generations there has been a change in the element dominating the society. The Danes landed three hundred years after the Saxons first landed. Almost three hundred years later came the Norman Conquest. The next three hundred years saw the rise of the English nation and the destruction of the medieval kingship by Henry of Lancaster. During the next three hundred years the nobles took the power away from the throne, their final victory being achieved in the Revolution of 1688. The period of class domination is now drawing to a close, and we are moving towards a state-despotism with its usual bureaucracy.

Since the Norman Conquest the period in which any clan or class has dominated our society has been well-marked and of the usual length, five generations, or roughly one hundred and fifty years.

The first blow at the kingship was struck at Runnymede, about one hundred and fifty years after the Conquest, and about one hundred and fifty years elapsed between Magna Carta and the beginning of the enclosure. After a period which might be described as aristocratic anarchy a fresh aristocracy was created by the Tudors, and the new era began with the Act of Supremacy, 1534. Another one hundred and fifty years passed, and then the Revolution occurred, 1688. The nobles dominated our society for one hundred and fifty years, when the middle classes took charge, the crucial date being the Reform Bill, 1831. The approaching end of middle-class domination is now plain to every observer. Like the Antonines, the Hanoverian monarchs have been supported by, and events of their reigns have been controlled by, the bourgeoisie; and we are now adopting the same kind of bureaucratic despotism as characterized the despotism of Caracalla. By idealistic thinkers the changes in our political structure are supposed to have been made by reformers, but actually they have occurred in a state of nature, their character being controlled by the same necessity as controls the behaviour of any natural event. The reformers have merely been the mouthpieces of Time, saying and doing in due course the things that were due to be said and done. And, to emphasize this, let me draw attention to the fact that in the last decade many observers have expressed their regret about the transfer of sovereign power to the bureaucrats. These have cried aloud against the despotism and expense of a bureaucracy, and some politicians have genuinely tried to check the despotism and reduce the expense. But events have been too strong for them. Bureaucratic despotism still grows; the expenditure on officials still rises. That is because we are still in a state of nature and the changes in our political structure are being dictated by forces we have not yet learnt to control.

A state of despotism must be distinguished from a state of kingship. The despot rules; the king leads. Of the latter, Theseus, Numa, Alfred, and Richard II (especially in Shakespeare's play) are examples. In the past a state of despotism has arisen after a decrease in the energy of the class which has been dominating the society. Despotism comes upon an energetic society when there is no class left with enough energy to dominate, and it is usually, like the despotism of Caracalla, based on the support of the proletariat, whom despots court with all the tricks that lie to their hand. And the

evidence is that in the past a class has risen to a position of political dominance because of its great energy and that at the period of its rising its sexual regulations have always been strict. It has retained its energy and dominated the society so long as its sexual regulations have demanded both pre-nuptial and post-nuptial continence. It has been deprived of its sovereignty, and its energy has decreased, after its children have been born into a less rigorous tradition. I know of no exception to these rules.

Like everything else in this universe, the cultural process bends. It is not a one-way street; a fall in the cultural scale is as possible, and in the past has been as frequent, as a rise. Nowhere is the process a straight street. If an expansive society retains its energy it begins to reveal its possession of attributes which must always have been potential but which were not visible or calculable in its expansive state.

I have already mentioned the nature of the cultural change that occurs; it is the change from the deistic to the rationalistic condition.

Applying its mental energy to the phenomena around, the most energetic members of the society discard the basis on which their old ideas rested. They cease to regard normal events as normal and abnormal events as the work of the gods; instead, they entertain the conception of the "natural." Under the influence of mental energy they inquire into the structure of the "natural" and begin to understand, or to think they understand, many things which their fathers thought inexplicable. And so long as they retain their energy the area of the "natural" continually expands into that which used to be occupied by the gods. The profane penetrates the sacred; and though some of the most developed minds preserve a conception of godhead based on the yet unknown, in other minds the profane alone exists. Men begin to interpret the world for themselves. Wanting a universe to suit themselves, they proceed to construct it, and soon produce one that satisfies them.

Such a society is in the rationalistic condition. There is no peculiar merit in it; it is merely the way men behave when in a certain state of energy. Any metaphysical scheme is scientifically vulnerable. It is offered as a product of reason, but, as the psychologists have suggested, temperament plays the greater part in the construction.

In the past few societies have been rationalistic: no society has

been rationalistic unless it has previously been expansive. I am not the first to point this out; Sir James Frazer said it long ago. "Intellectual progress," he remarks in his evolutionary way, "which reveals itself in the growth of art and science, cannot be dissociated from industrial and economic progress, and that in its turn receives an immense impetus from conquest and empire. It is no mere accident that the most vehement outbursts of the human mind have followed close upon the heels of victory."

But we must remember that many victories have been won which have not been followed by a burst of intellectual activity. Not all but only a few expansive societies have become rationalistic. And the evidence is that these have been those which have retained their sexual opportunity at a minimum.

If, during and after its period of expansion, an absolutely monogamous society has relaxed its sexual regulations, and a new generation has been born into a less rigorous tradition, its energy has decreased. It has enjoyed the use of its conquests for so long as it has had the energy to preserve them, but if it has come into contact with a more vigorous society, or if the energy of its conquered subjects has increased, it has been deprived of its sovereignty, and even conquered in its turn. This is what appears to have happened among the Sumerians and Babylonians. But if, instead of the sexual regulations being relaxed throughout the society, some groups have preserved their ancient habits, or if new groups have adopted them, the energy of the society has been retained; and it is under these circumstances that there has occurred the cultural change to which I have referred.

There is, of course, no merit in any form of marriage as such. In inquiring what effect the checking of the sexual impulses has on human behaviour, marriage customs are only important in so far as they reduce the opportunity for the direct satisfaction of those impulses. If some members of an expansive society marry women reared in a sterner tradition than the one they themselves possess at the time of their expansion, the next generation does not behave in the same way as it would have done if the expansive people had married their own women. The history of the Arabs is a good example of this.

Among the early Arabians women were not compelled to be pre-nuptially continent, but, in the generations which immediately

preceded the birth of Mohammed, they began to replace *mot'a* marriage by *ba'al* marriage. Pre-nuptial sexual opportunity was therefore limited; pre-nuptial chastity was introduced among the women; and in subsequent generations the Arabs began to behave in the same manner as those other societies which had adopted similar customs; that is to say, they began to erect temples in which they maintained a right relation with the power in the universe. The only difference between them and other deistic societies was that with the Arabs the same power was manifest in each of their temples, whereas in the Babylonian, Hellenic, Roman, and Teutonic temples, different powers had been manifest in different temples. The effect of *ba'al* marriage was also to reduce the sexual opportunity of the Arabs to the same extent as that of absolutely monogamous peoples. They then began to behave in the same way as those absolutely monogamous peoples had behaved. That is to say, they began to display expansive energy just after the death of the Prophet. But during the Prophet's life, when the marital authority inherent in *ba'al* marriage had become part of the inherited tradition of a complete new generation, the question had arisen, of how many women can a man be *ba'al*? The Prophet gave an explicit answer to the effect that the number was only limited by a man's capacity to deal fairly with each woman.

When, therefore, the Arabs burst over Egypt they did not take with them a monogamous but a polygamous tradition. When they got to Egypt they had not enough energy to go further, and remained there for a generation. But in Egypt they married Christian women, who had been reared in an atmosphere of intense continence, and even encouraged to lead a celibate life. The Arabs impressed maternity on these women. Their sons conquered North Africa. Then the Berber leaders, new converts to the faith and therefore to *ba'al* marriage, began to behave in the expansive way that in the past has always accompanied such sexual regulations; they led the way to Spain. The Arabs followed, and there once more they married Christian women and Jewish women too. Soon the most energetic sons of these women began to be rationalistic, but the tradition failed to mature greatly and finally disappeared. There was always a comparative shortage of women who had been reared in an atmosphere of intense continence, and finally there were none at all.

Such, in brief outline, is the evidence that a study of history yields about the effect of different sexual regulations on human behaviour. There is no instance of a society displaying great energy if it had inherited a system under which sexual opportunity was extended. Before displaying great energy societies have reduced their sexual opportunity to a minimum. Societies which have had the same sexual regulations have behaved in the same way. A change from the deistic to the rationalistic condition has only occurred when the mothers of the rationalistic generation have spent their early years in an atmosphere of intense continence. Within the society the group which inherited the sternest sexual regulations has dominated the other groups and the nature of the political structure has been a reflection of this dominance. If, after a period of compulsory continence a society, or a group within it, has extended its sexual opportunity, the energy of the society or of the group, as the case may be, has decreased within three generations and finally disappeared.

(*b*) ANTHROPOLOGICAL EVIDENCE

The historical evidence is certainly impressive, but I was not convinced by it. It could be effectively used by a student who wished to "prove" the truth of the psychologists' conjecture by the citation of apt illustrations, but I did not think it extensive enough to warrant an inductive conclusion; so, after summarizing some of it in two short papers, I proceeded to make a survey of the uncivilized world, to see if there was any relation between sexual opportunity and human behaviour there.

In regard to sexual regulations, I widened the scope of the inquiry. As I have said, when the most energetic societies we know first entered the historical arena, they all organized the human family on what is popularly called the "patriarchal" basis. In each case the male was at the head of it, the female in a state of subjection; and it seemed possible in view of what the psychologists had said about the Œdipus complex, that the structure of the family might have been an important factor in the observed result. If there had ever been an energetic society which organized the family on a "matriarchal" basis, this would have an important bearing on the

question, but no such society had ever been known to exist. So, in collecting the evidence afforded by a study of uncivilized peoples, I began to record not only their pre-nuptial and post-nuptial regulations, which would tell me the chief facts about their sexual opportunity, but also their method of reckoning descent, the way in which a wife was selected and secured, and whether marriage was matrilocal or patrilocal.

I had also observed that at the beginning of its historical career each of the energetic societies had had a similar system of prohibited degrees. There was some variety within the pattern, particularly among the Hellenes, but the pattern was the same in each case. This matter also seemed worth inquiring into. Moreover, among some uncivilized peoples post-nuptial sexual rights over a wife were sometimes shared by the husband's clan-brothers. So in the chart on which I recorded the relevant information I included a column to show the regulations which controlled the meaning of incest, and another one to indicate whether a husband enjoyed exclusive sexual rights or not.

The existence or absence of bachelors' halls or girls' dormitories also seemed important; so did the practice of the levirate and sororate. All these things might affect sexual opportunity, and I did not wish to omit any likely factor.

In the other columns of the chart I recorded the cultural behaviour of the society.

I emphasize "behaviour." As I pointed out in the preceding chapter, uncivilized peoples are usually classified according to the alleged nature of their beliefs; but I do not feel able to accept these classifications. I have lived and travelled among uncivilized peoples, and I am aware of the difficulties that attend a study of their ideas. I also think that many serious mistakes have been made by the anthropologists who have confined their attention to, and based far-reaching theories on, a study of beliefs alone. I am not going to present here a reasoned argument against the possibility of getting to know what an uncivilized man thinks; nor draw attention to the amount of subjective intrusion which, in my view, any account of his beliefs must inevitably contain. The nature of human beliefs can, I think, be deduced from the behaviouristic and other data, but such deductions have no great evidential value. A more important point is that a man's beliefs cannot be directly observed; so they

cannot be regarded as scientific data of the first quality. Science is the study of sense-impressions, and like other scientists, a social scientist must draw his inductive conclusions from sense-observations alone. But, as again I pointed out in Chapter I, unlike a chemist or a physicist, he cannot observe all the evidence himself and he has to rely on other men to a great extent. His raw material consists of their descriptions of what they have observed. That is why in social science the trustworthiness of the observer is a factor of paramount importance.

Since I wished to discover whether or not there was any relation between the checking of the sexual impulses and a display of the energy which makes "civilization," I chose as my cultural criterion the attitude of the people towards the external world. I knew that all of them saw in the external world the manifestation of a power or powers, with which they tried to maintain a right relation; and I found that, according to the steps they took to maintain this right relation, they divided themselves into three classes, which I called zoistic, manistic, and deistic.

The societies that behaved deistically were those that erected temples to gods. If they wanted the rain to fall after a drought, or the sun to shine after a too great fall of rain; or if they suffered from some unaccountable affliction, social or individual; or if they wished to receive help in some exceptional enterprise, they went to a temple and appeased the anger, or solicited the favour, of the power manifest therein.

I defined a temple as a roofed building, other than a grave-house, in which a power in the universe manifests itself, and which is specially erected and maintained in order that a right relation may be preserved with that power, the building itself being of such a size that a man can stand upright inside it.

Under similar circumstances the people I called manistic behaved in a different way. When they suffered in a manner they did not understand they went to the grave of, or to a shrine that had belonged to, a powerful dead man. Over his grave a little hut might be built. Alternatively, a relic of his might be preserved and a hut made to contain it. Or there might be no hut but a shrine where his spirit was supposedly manifest. This shrine might be embellished with a small altar or a fireplace; a little wall or fence might be built round it. But the elaborations were not greater than this; and

manistic people thought they had done a right and proper and sufficient thing when they had propitiated or conciliated the dead man by placing an offering or offerings in the hut or shrine.

The societies that behaved zoistically neither erected temples nor paid any kind of post-funeral attention to their dead. In any unusual, incomprehensible event or phenomenon they saw the manifestation of a power which they regarded as both dangerous and desirable. The power was manifest in any stone, animal, or tree of uncommon type or unusual appearance, and in any object the nature of which was not understood. Any man whose manner of birth or life was abnormal was credited with its possession and therefore regarded with awe and admiration. We call him a magician. A sickness which came within the normal experience of the people was treated in what they regarded as a normal manner; this was the case among manistic and deistic people also; but among zoistic societies an unaccountable sickness was ascribed neither to the anger of a powerful dead man nor to the displeasure of a god, but either to the power hypothesized as responsible for all unaccountable things or to a magician who, possessing that power, had used it for his own purposes. Under those circumstances we call the magician a wizard or witch.

If there was a drought, or rain came too much, zoistic people did not placate the anger of any dead man, nor make an offering in any temple. Instead, they asked a magician to create the needed shower or to make the sun shine. Alternatively, a similar payment was placed at the foot of an unusually shaped tree, before an uncommonly shaped stone, or in some other place where the power in the universe was thought to be manifest.

If they were sick, or suffered some other form of unaccountable misfortune, they behaved in the same way.[1]

[1] The native word that denoted the strange quality in unusual, incomprehensible things used to be translated as *spirit* or as *spirits*. On these translations Tylor founded his theory of *animism*, which has been broadcast through our lecture halls to such an extent that enthusiastic travellers and administrators have searched for traces of it, and, of course, have found it; for they have soon discovered the all-embracing word to which I have alluded and have at once concluded that this was the word for *spirit*. The translation is unfortunate, for it has created the impression that the power in the universe was ubiquitous and that all kinds of afflictions were ascribed to it. This was not the case. The power was only manifest in unusual places and things. Only unusual forms of affliction were ascribed to it. The word *spirits* also creates the impression that the power was

Having recorded the way in which each society behaved under the circumstances I have related, and having classified each society as deistic, manistic, or zoistic, according to the evidence, I was able to discover whether or not there was any relation between sexual opportunity and human behaviour by comparing these entries with the entries that described the sexual regulations.

I soon found that the method of reckoning descent was not an important factor; for there were some societies with male descent and some with female descent in all three cultural classes. Nor did the locality of the marriage seem to matter. I discovered that among some manistic peoples marriage was matrilocal, among others patrilocal; patrilocal marriage seemed to be the rule among deistic peoples; among zoistic peoples there were more with patrilocal than with matrilocal marriage. Nor did the cultural behaviour seem to vary according to the prevailing idea of what incest was; in each class there were some societies which were reported to have no prohibited degrees and others which were said to have no exogamous clans. Most societies, however, appeared to have both at the same time, and I did not place a high value on the evidence.

The practice of the levirate and sororate, so far as could be judged from the vague, uncertain statements which constituted the only available evidence, was also common among people in all three cultural classes, and it was soon obvious that neither the fate of a widow, nor the marrying, either together or as they matured, of all the sisters in one family, nor the replacement of a dead or sick wife by one of her sisiters had any effect on the way in which the people regarded the external world. And the same could be said of the post-nuptial regulations. I did not find a single uncivilized society in which the male had to confine his sexual qualities to one woman for the whole of his married life, and I found extremely few cases in which a wife had to confine her sexual qualities to one man for the whole of her married life.

always regarded as an entity, but this was not always the case. The native habit of never using the neuter gender may have contributed to this mistake.

The word that denoted the power is really untranslatable. If we must translate it, there is only one possible translation, *God*. But we must remember that the native idea of *God* was different from our own and relative to his mental development. Yet when we speak of an *act of God*, or say *God knows* we express the same sentiment as was expressed by the ejaculatory use of the Polynesian *atua*; African *ngai*, *mulungu*, *jok*; American Indian *yek*, *sgana*, *snam*, *manitou*, *wakanda*; Melanesian *vui*, *kalou*, *akalo*, etc. See *Sex and Culture*, paras. 146–50.

But when I examined side by side the columns in which I had recorded the cultural behaviour and the nature of the pre-nuptial regulations, the most striking facts were revealed. The completed chart is reprinted on pages 98 and 99.

(1) Societies that permitted pre-nuptial freedom were in the zoistic condition and behaved zoistically. Conversely, all the zoistic societies permitted pre-nuptial freedom.

(2) Societies that inflicted an irregular or occasional pre-nuptial continence were in the manistic condition, and behaved manistically. Conversely, all the manistic societies inflicted an irregular or occasional pre-nuptial continence (denoted by —* on chart).

(3) Societies that insisted on complete pre-nuptial continence were in the deistic condition, and behaved deistically. Conversely, all the deistic societies insisted on complete pre-nuptial continence.

Originally I had more than one hundred and twenty societies on the chart, but I discovered later that in some cases the evidence was sadly incomplete in many important cultural details. In its 'final form the chart contains eighty societies only. I think they can safely be accepted as a fair sample. Most "races" are represented there; so are all kinds of geographical environments. Thus we may say that the rules hold good whatever the racial extraction of the people and whatever the geographical environment in which they live.

But the relation between the factors is even closer than this evidence suggests.

The manistic people sub-divide. Some of them credited the powerful dead with greater power than any living magician possessed; others did not. So in times of stress their behaviour differed in a most interesting way. Those that did not credit the powerful dead with greater power than living men did not think it worth while to ask the dead for help which some living man was well able to give; but they did credit the powerful dead with the power to cause trouble in the same way as a living magician, or wizard, could cause trouble; and they regarded it as their duty to tend the dead, to whose anger any unaccountable sickness was likely to be ascribed. Under such circumstances the people tried to conciliate the angry ghost by an offering or payment similar to that which had appeased the man's anger when he was alive. To such offerings I give the name *tendance*, for the people's idea was that to avoid misfortune they must tend the dead.

CHART OF EVIDENCE

Society	Cultural condition	Treatment of affliction			Method of weather control		Treatment of ghosts			Temples and priests	Pre-nuptial chastity
		Magic	Transference and/or exorcism	Priest	Magician	Priest	Controlled by magic	Tendance	Cult		
	1	2	3	4	5	6	7	8	9	10	11
MELANESIA											
1. Loyalty Islanders	Z	+	—	—	+	—	—	—	—	—	—
2. Tannese	Z	+	—	—	+	—	—	—	—	—	—
3. New Britons	M	+	∓	—	+	—	—	∓	—	—	—*
4. S.E. Solomon Islanders (Ulawa and Sa'a)	M	+	+	—	+	—	—	+	+	—	—*
5. Banks Islanders	Z	+	+	—	+	—	—	—	—	—	—
6. Fijians	D	+	+	+?	—	+	—	+	+	+	+
7. Trobriand Islanders	Z	+	—	—	+	—	—	—	—	—	—
NEW GUINEA											
8. Kiwai Papuans	Z	+	—	—	+	—	+	—	—	—	—
9. Mafulu	Z	+	—	—	—	—	—	—	—	—	—
10. Purari	Z	+	—	—	—	—	—	—	—	—	—
11. Koita	Z	+	—	—	+	—	—	—	—	—	—
12. Mailu	Z	+	—	—	o	o	—	—	—	—	—
13. Orakaiva	M?	+	—	—	+	—	—	∓ ?	—	—	—?
AFRICA											
14. Shilluk	M	+	+	∓	+	∓	—	+	+	∓	—*
15. Dinka	M	+	—	—	+	—	—	+	—	—	—*
16. Lango	M	+	—	—	+	—	+	∓	—	—	—*
17. Bakitara	D	+	+	∓	+	∓	+	+	+	+	+
18. Baganda	D	+	+	+	—	+	+	+	+	+	+
19. Banyankole	M	+	+	—	+	—	+	+	—	—	—*
20. Akikuyu	M	+	—	—	—	—	—	∓	—	—	—*
21. Akamba	M	+	—	—	—	—	—	∓	—	—	—*
22. Nandi	M	+	—	—	+	—	—	∓	—	—	—*
23. Masai	Z	+	—	—	—	—	—	—	—	—	—
24. Wayao	M	+	—	—	+	—	—	+	—	—	—*
25. Anyanja	M	+	—	—	+	—	—	+	—	—	—*
26. Awemba	M	+	—	—	—	—	+	+	—	—	—*
27. Baila	M	+	—	—	+	—	—	+	—	—	—*
28. Baronga	M	+	?	—	+	—	—	∓	—	—	—*
29. Amazulu	M	+	—	—	+	—	+	+	—	—	—*
30. Basuto	M	+	—	—	+	—	—	+	—	—	—*
31. Ibibio	M	+	∓	—	+	—	+	∓	—	—	—*
32. Yoruba	D	+	—	+	o	o	—	—	—?	+	+
33. Dahomans	D	+	—	+	—	+	—	+	+	+	+
34. Ashanti	D	+	—	+	o	o	+	+	+	+	+

The symbol o indicates that no information is available.

Society	Cultural condition	Treatment of affliction			Method of weather control		Treatment of ghosts			Temples and priests	Pre-nuptial chastity
		Magic	Transference and/or exorcism	Priest	Magician	Priest	Controlled by magic	Tendance	Cult		
	1	2	3	4	5	6	7	8	9	10	11
AMERICA											
35. Tlingit	Z	+	—	—	o	o	—	—	—	—	—
36. Haida	Z	+	—	—	+	—	—	—	—	—	—
37. Thompson	Z	+	—	—	+	—	—	—	—	—	o
38. Shuswap	Z	+	—	—	o	o	—	—	—	—	o
39. Lillooet	Z	+	—	—	o	o	—	—	—	—	o
40. Coast Salish	Z	+	—	—	o	o	—	—	—	—	o
41. Klallam	Z	+	—	—	+	—	—	—	—	—	—
42. Nez Percés	Z	+	—	—	+	—	+	—	—	—	—
43. Dene	Z	+	—	—	+	—	—	—	—	—	—
44. Ojibwa	Z	+	—	—	+	—	—	—	—	—	—
45. Blackfeet	Z	+	—	—	+	—	—	—	—	—	—
46. Arapaho	Z	+	—	—	o	o	—	—	—	—	—
47. Iroquois	Z	+	—	—	o	o	—	—	—	—	—
48. Dakota	Z	+	—	—	o	o	—	—	—	—	—
49. Omaha	Z	+	—	—	o	o	—	—	—	—	—
50. Hidatsa	Z	+	—	—	+	—	—	—	—	—	—
51. Mandan	Z	+	—	—	+	—	—	—	—	—	—
52. Crow	Z	+	—	—	+	—	—	—	—	—	—
53. Winnebago	Z	+	—	—	o	o	—	—	—	—	—
54. Hopi	Z	+	—	—	+	—	—	—	—	—	—
55. Zuni	Z	+	—	—	+	—	—	—	—	—	—
56. Sia	Z	+	—	—	+	—	—	—	—	—	—
57. Navaho	Z	+	—	—	+	—	—	—	—	—	—
58. Apache	Z	+	—	—	+	—	—	—	—	—	—
59. Chickasaw	Z	+	—	—	+	—	—	—	—	—	—
60. Creek	Z	+	—	—	+	—	—	—	—	—	—
61. Natchez	Z	+	—	—	+	—	—	—	—	—	—
62. Pima	Z	+	—	—	+	—	—	—	—	—	—
63. Aztecs	D	+	—	+ ?	—	+	o	o	o	+	+
OCEANIA											
64. Maori	M	+	∓	—	+	—	+	∓	—	—	— *
65. Tongans	D	— ?	—	+	—	+	—	—	?	+	+
66. Samoans	D	+	+	+	+	∓	—	—	?	+	+
67. Tahitians	M	+	—	—	o	o	—	+	—	—	— *
68. Gilbert Islanders	D	+	—	—	o	o	—	+	—	+	+
ASSAM											
69. Ao Nagas	Z	+	—	—	+	—	—	— ?	—	—	—
70. Angami Nagas	Z	+	∓	—	+	—	—	—	—	—	—
71. Lhota Nagas	Z	+	—	—	+	—	—	—	—	—	—
72. Sema Nagas	M?	+	∓	—	+	—	—	?	—	—	— * ?
73. Mikirs	Z	+	—	—	o	o	—	—	—	—	—
74. Garos	Z	+	?	—	+	—	—	—	—	—	—
75. Khasis	M	+	—	—	o	o	—	+	?	—	?
MISCELLANEOUS											
76. Andaman Islanders	Z	+	—	—	+	—	—	—	—	—	—
77. Sea-Dyaks	M?	+	+	—	o	o	+	∓ ?	—	—	— * ?
78. Chukchee	Z	+	—	—	o	o	—	—	—	—	—
79. Koryak	Z	+	—	—	o	o	—	—	—	—	—
80. Yukaghir	Z	+	—	—	o	o	—	—	—	—	—

To the behaviour of the other kind of manistic societies I give the name *cult*. These definitely regarded the powerful dead as possessing greater powers for good or ill than living men. So their offerings were not always made to avoid danger but to receive extra-mortal assistance.

The nature of the post-funeral rites conducted by manistic societies is recorded in Cols. 8 and 9. A minus-plus sign indicates either that the evidence is uncertain or that the rites appear to have been irregular or spasmodic.[1]

The behaviour of the manistic (tendance) and the manistic (cult) societies also differed in two other ways.

First, among the former a dead man was soon forgotten; the tending of him then ceased. But among the latter a dead man was sometimes remembered and propitiated for more than one generation, and even for generation after generation. This information is not recorded in the chart.

Secondly, the manistic (cult) societies decorated and elaborated their sacred places to a greater extent than the manistic (tendance) peoples. This information also is not given on the chart.

Now, among the societies that inflicted an irregular or occasional pre-nuptial continence, the intensity of that continence varied. I was unable to show this in the chart; but the evidence is that those manistic societies which conducted a cult as well as a tendance of the dead, which remembered and propitiated a dead man for the longest period, and which introduced most elaborations in their sacred places, were also those among which the

[1] In translating the native terms applied to the post-funeral rites, it is best to avoid using the word *sacrifice*. Like *spirit*, it is seldom accurate, for it (*a*) confuses what the natives distinguished, and (*b*) distinguishes what the natives confused.

(*a*) All natives knew the difference between *do ut abeas* and *do ut des*; and the distinction between them, which is the difference between *tendance* and *cult*, is important; but it is lost if we use the word *sacrifice*.

(*b*) When we say *sacrifice* we think of an offering *to* a power; but some of the native words that have been translated as *sacrifice* referred to an offering *before* a power, which is quite a different matter. Moreover, the native word that denoted an offering before the power in the universe was also used to denote the payment made to a living magician. The Banks Island *oloolo* is an example. In the native opinion the offering and the payment served a similar purpose. If we use the word *sacrifice* to denote the former, we introduce a distinction between acts which, so far as the natives were concerned, were identical.

For a full discussion of these important matters, see *Sex and Culture*, paras. 146–50.

intensity of the irregular or occasional continence was relatively the greatest.

I wish to say, however, that this evidence is scanty. For that reason too great reliance should not be placed on it. Indeed, it refers to two societies only, No. 4 S.E. Solomon Islanders and No. 14 Shilluk. There is no method by which we may compare the intensity of the pre-nuptial continence suffered by these two societies.

But though the chart does not reveal this evidence about the manistic (cult) peoples, it contains one or two other items of great interest and importance.

The definitions I have formulated are broad. The chart only shows the pattern of the cultural behaviour; there was an intense variety within these patterns. Moreover, the deistic and manistic societies were probably culturally stratified. Each deistic society probably contained a manistic stratum, and perhaps a zoistic stratum too. The manistic societies probably contained a zoistic stratum. Moreover, among the eighty societies are some which were almost certainly degenerate. That is to say, some of the manistic societies were probably deistic at a time before that to which our information refers; some of the zoistic societies were probably manistic in a previous age. I called attention to the possibility of this degeneracy in my *Sex and Culture*, and suggested some means of knowing whether a society was degenerate or not.[1]

Now if you look at the chart you will see that the plus signs in Cols. 4, 6, and 10 do not always correspond. That is to say, all deistic peoples did not go to a temple when they suffered from an unaccountable affliction; nor when they needed rain. For instance, No. 17, Bakitara, and No. 66, Samoans, sometimes did; at other times they preferred to consult a magician or to conciliate a dead man at his graveside. Again, there is a minus-plus sign in Col. 10 in reference to No. 14, Shilluk. This refers to the erection of a cenotaphic grave-hut, *kengo*, which was almost but not quite a temple in the sense I attach to the word.

These varieties do not contradict but support the inductive rules. Human behaviour is not a static but a dynamic thing; it changes constantly. Our classifications are only made for the purpose of study, and it is natural that some societies should be on the edge of

[1] See *Sex and Culture*, para. 166.

the defining line. This is where the Shilluk and the Bakitara and the Samoans appear to have been. They were in the act of changing their behaviour from one state to another.

Having said this, I have no more comments to make here on the chart of evidence. There can be no doubt that, when an inductive scientist considers the evidence, he is compelled to induce that, as the psychologists have conjectured, there is a close relation between the checking of the sexual impulses and human behaviour.

Now, on being examined, each of the three uncivilized methods of behaviour, zoistic, manistic, and deistic, reveals itself as a state of energy, as defined. Moreover, the state is definitely a mental state, which itself cannot be directly observed but which is manifest in the behaviour of the society. I am not going to debate here whether uncivilized men think as they think because they act as they act, or whether they act as they act because they think as they think. But I am confident that they cannot change their behaviour without thinking first. And I have published the nature of the mental road along which, it seems to me, a zoistic society travels when it becomes manistic or deistic. The change is a mental change, and, the evidence tells us, due to a checking of the sexual impulses. The mental energy itself is no more apparent to our senses than is the material energy that lies behind the material universe. In each case the existence of the energy is a deduction from our observation of perceptible events. But it must be there, and we can summarize the historical and anthropological evidence to which I have referred by saying that in the past, according to the way in which they have regulated the relations between the sexes, human societies have arrived into one or other of six states of energy, three lesser, three greater.

The first state of energy occurs when the society has, for at least three generations, allowed its young people to satisfy in a direct manner such sexual impulses as they have. In this state of energy the people behave in the manner I have called zoistic.

The second state of energy occurs when the social habits inflict an irregular or occasional pre-nuptial continence. In this state of energy the society behaves in the manner I have called manistic.

The third state of energy occurs when the society, or some groups within it, insist on girls being virgins when they marry. In this state of ener[illegible]e society behaves in the manner I have called deistic.

There are the three states of lesser energy, each of which produces a definite cultural condition.

If unmarried girls are compelled to be pre-nuptially continent, pre-nuptial sexual opportunity is at a minimum. Sexual opportunity can only be reduced further by limiting it post-nuptially.

If a married woman, having been married as a virgin, is compelled to confine her sexual qualities to one man, and if this man cannot have other wives unless his wife is faithless, the society gets into the fourth state of energy. In this state of energy the society still behaves deistically but it becomes expansive.

This is the state of energy in which all the most energetic historical societies were at the beginning of their historical career. Each reduced its sexual opportunity to a minimum by the adoption of what I have called absolute monogamy.

But this method of regulating the relations between the sexes has never been tolerated for very long. If, after suffering it, a society permits its males to have more than one sexual partner, it has ceased to display expansive energy; but it has remained deistic if it has continued to demand pre-nuptial chastity. It has also enjoyed the fruits of its conquests for so long as it has had the energy to keep the usufructs, but if it has come into contact with a more energetic society, it has been robbed of its sovereignty and conquered in its turn. If it has relaxed its sexual regulations to a further extent, it has collapsed. By deduction I consider that this is what happened among the early Persians, Macedonians, Huns, and Mongols. At one time too the Yoruba appear to have been expansive; but when we first met them they were less energetic, though still the most virile people in West Africa.

If, on the other hand, a society has retained its sexual opportunity at a minimum, or if, after the decline of the first dominants, a new group has appeared, preserving the old customs discarded by those dominants, this society has arrived into the fifth state of energy, which produces the behaviour called rationalistic.

The sixth state of energy, which is the state of productive energy based on scientific research, appears when sexual opportunity is maintained at a minimum for a still longer period.

If you ask me why this is so, I reply that I do not know. No scientist does. Do you know why water becomes steam when you heat it? Do you know why a radio-active element descends in the

periodic tables as it radiates its energy? You can describe the process and observe it, but you cannot explain it. Even so with the aid of the psychologists, I can describe and observe the process I have summarized, but I cannot explain it at all. I conclude that, just as it is part of the inherent nature of water to expand when heated, so it is part of the inherent nature of human organisms, when collected together in a society, to behave in the observed manner. And with such a statement a scientist, who can never hope to obtain any ultimate knowledge, and whose observations are limited to a few sense-impressions, has to be content.

CHAPTER III

The Cultural Process

THE evidence summarized in the last chapter can be stated in general terms.

By virtue of their inherent nature human beings, when collected together into societies have the power to display a unique kind of energy, technically called human energy. This energy consists in the use of powers that are peculiar to the human organism, the powers of reason and creation. These are the powers that have produced what is loosely called "civilization," and their use depends on the possession of a third power, the power that the human organism possesses of reflecting on itself. Technically it is called self-consciousness.

Some years ago, as a result of their researches into the nature of causes of mental disturbances, the psychologists suggested that what we call "civilization" has been built up by sacrifices in the gratification of sexual desires. An inquiry into the facts reveals that in making this suggestion the psychologists were right; probably even more right than they ever realized.

The evidence is that in the past, according to the amount of compulsory continence they suffered, human societies have arrived into six different states of energy, three lesser, three greater. Societies in one or other of the three states of lesser energy have thought and behaved in the manner loosely called savage, primitive, or uncivilized. Societies in one or other of the three states of greater energy have thought and behaved in the manner loosely called cultured, enlightened, or civilized. The same amount of compulsory continence has always produced the same amount of energy and therefore the same type of thought and behaviour.

The nature of a geographical environment and the forces implied by the indefinable word "race" have made no difference to the pattern of behaviour, though they may have been responsible for some of the great varieties that have existed within the pattern. If two societies of the same supposed racial extraction have lived side by

side in the same geographical environment, and have suffered an equal amount of compulsory continence, they have displayed an equal amount of energy; the pattern of their ideas and behaviour has been the same. And this is also true if the societies have been of different racial extraction, whatever the geographical environment in which they lived. But, if two societies have suffered an unequal amount of compulsory continence, they have displayed an unequal amount of energy and the pattern of their ideas and behaviour has been different. And this is true whether they were of the same or of different racial extraction, and whether they lived in the same or a different geographical environment. Everywhere, anywhere the same amount of compulsory continence has produced the same amount of energy and the same cultural state. Different amount of compulsory continence has produced different amount of energy and different cultural states.

The age we live in, as I have said before, is a rationalistic one, out of which a scientific age may or may not emerge; and we must always be on our guard against the making of false assumptions due to our rationalistic traditions. The difference between a rationalistic and a scientific thinker lies in this: the former expresses personal opinions; the latter draws his conclusions solely from a study of the past.

A chemical substance like water is not only an event which has a certain structure; it is in a certain state of energy. If the molecules that constitute it are in a different state of energy they behave in a different way, and appear as ice or steam. Similarly, a human society is not merely a structure of human groups; the groups are in a certain state of energy and behave accordingly. Moreover, if they are energized, they begin to behave in a different way from what they did before.

In ice the molecules cohere rigidly. When energy in the form of heat is applied to them, they move apart, and the ice changes its state and becomes water. The ice has no choice in the matter. When energized it cannot help changing its state; nor has it any choice concerning the state into which it must arrive. And it becomes water because it is part of its inherent nature, when energized, to behave in that manner. Similarly, if a human society is in a state of little or no energy, the groups of which it is composed cling closely together, have uniform mental processes, and behave

in the same way. A zoistic society is like that. But if the social regulations are changed and begin to inflict a small amount of compulsory continence, a small amount of human energy is produced by the emotional conflicts which arise in the hearts of those whose sexual impulses have been checked by external influences. The individuals who suffer these conflicts then move apart, and between them and the other members of the society there is a cultural distance due to the mental energy they display. Towards the external universe they preserve a different attitude from that of their zoistic brethren, and, forming themselves into a new group, they constitute a new manistic stratum, the presence of which qualifies the society for inclusion in the manistic category. Under the influence of their emotional conflicts, the members of this stratum cannot help behaving in a different manner; nor have they any choice in the manner they adopt. This depends on the extent of their energy, that is, on the extent to which they develop their inherent powers. And they behave in the observed manner because it is part of the inherent nature of the human organism to behave like that under those conditions.

When we see a piece of water alongside a piece of ice, we have no difficulty in perceiving the difference between them. Similarly, we have no difficulty in telling whether a society is behaving zoistically or manistically. But the difference between the ice and the water is merely the difference between two states of energy; the molecules are the same in each case. The only thing is that they are behaving differently. Similarly, a manistic society consists of the same fundamental units as a zoistic society. The only thing is that these human groups, or molecules, are behaving differently, and the difference in their behaviour is due to a difference in their energy.

If the molecules that constitute the event we call water are subjected to the influence of more energy, they move more freely still. Again, they have no choice in the matter; nor can the change in their behaviour be any other than the observed one. And if the water is continually energized, it gets hotter and hotter, boils, and then becomes steam. The molecules are the same in each case, but the energy applied to them in the form of heat makes them move further and further apart.

The same thing happens to a human society when we reduce its

sexual opportunity again. Under the influence of the resulting energy, the ideas of some people change; their behaviour alters too; new groups are formed, and a deistic stratum soon appears. The individuals that compose this group have no choice but to behave differently from their brethren; and the change in their behaviour cannot be other than the observed one; for that is the way in which the human organism, owing to its inherent nature, behaves under these conditions. And, if the society is energized again by a reduction of its sexual opportunity to a minimum, some groups become expansive and lead their fellows on a career of exploration, colonization, and conquest. The society behaves like a boiling kettle and flows over the edge of the area containing it. And each time the society is energized the cultural distance between the groups grows larger, and eventually, if sexual opportunity remains at a minimum, a rationalistic group appears. There is then a noticeable distance even between the individuals that compose this group; they remain members both of the society and of the group, but mentally they try to free themselves from it; some begin to interpret the universe for themselves, upholding what they call their reason as the sole source of their knowledge and the sole origin of their beliefs. It is this emergence of the individual from the group that is the chief characteristic of a rationalistic society, and we judge the appearance of a rationalistic stratum by the fact that the rationalists begin to have their own individual standards of conduct, their own individual standards of value, and their own individual standards of judgment. A rationalist is essentially an individual himself and therefore thinks that all other people have the same opinion of themselves and things in general. But men in other cultural states think differently and think of themselves not as members of a society but primarily as members of the small groups of which the society is composed.

I have no doubt that if the electrons and protons that form a molecule of water could be given human faculties, they would suffer from some of the illusions that afflict the minds of many men. They would have difficulty, I think, in recognizing that their state was fully determined and that they had no choice but to behave as they were behaving. When they were in a condition of steam they would be justified in thinking that they were more "free" than their brothers who were in a condition of ice. If they were ceasing to be steam and gradually becoming water, some of them might be

conscious of the loss of such freedom. But when they had become water they would find, I think, that their new condition was quite comfortable. At any rate, they would soon get accustomed to it. Indeed, if they suffered from the illusion called Progress, they might even regard any change in their state as desirable and progressive, whether the change was from ice to water, from water to steam, from steam to water, or from water to ice.

Such value-judgments are commonly, perhaps inevitably, made by human beings, and must be accepted for what each man thinks they are worth. Their scientific value is an evidential one; and here we perceive yet another difference between a rationalist and a scientist. To a rationalist every fact has a value, which he himself places on it; but to the scientist the value a man places on a fact is itself a fact, for it reveals the personal standards of the speaker.

If we cease to pass judgment on the data I am discussing and consider them as cold-bloodedly as a chemist considers his material, we see how they enable us to become the creator of a new event in the cultural process.

In the first chapter we saw that, when an inductive scientist interferes with the material process, three preliminary steps are essential. First, we have to discover the way things behave under certain conditions and then how they behave under certain other conditions. Secondly, if we want to make them behave in any particular manner all we have to do is to create the conditions that produce that type of behaviour. We then take the third step and perform the act of faith without which no scientific discovery can ever be applied. This act of faith consists in the belief, fully warranted, that in the future things will continue to behave as they have behaved under similar conditions in the past.

Thus, if we want water, we can produce it by energizing ice; if we want steam, we can get it by energizing water; and so on.

Following the same course of reasoning, we can, if we wish, artificially produce any of the cultural states that have existed in the past, that is, in a state of nature. All we should have to do is to increase or decrease the amount of the society's energy to the requisite degree by changing its sexual regulations to produce the correct amount of compulsory continence. Just as when we wish to change ice to water or water to steam, we subject it to the influence of energy in the form of heat, so, if a sluggish society wished

to rise in the cultural scale and to display, for example, expansive energy, it could be made to do so if it consented to suffer the requisite amount of compulsory continence. The desired behaviour would begin to emerge in the third generation after the decision had been made.

My authority for this statement, I wish to add, is the same as the housewife's authority for believing that if she places a kettle on the fire it will eventually boil. The only evidence she has for her belief is that under those circumstances kettles have always boiled in the past. Similarly, the only evidence I have is that in the past the same amount of compulsory continence has always produced the same cultural behaviour. According to the scientific method of controlling the future by a study of the past, it follows that if we produce the correct amount of energy the required cultural state will emerge.

But, though it is certainly possible to produce artificially any of the cultural states that have existed in the past, it somehow seems stupid to try. When I look back into the past I see no cultural state I wish to reproduce for its own sake, and it somehow seems pointless to repeat intentionally an event that has so often occurred in a state of nature and possesses no attraction of its own.

The data I have summarized, however, lead to another conclusion which offers more interesting possibilities. This conclusion is that if a society wished it could display great energy for ever.

This possibility contradicts the view that a society is an organism, which was a favourite notion in the nineteenth century. Mandell Creighton, the first "scientific" historian, held it. I suppose no one holds it now, but it is perhaps worth while to say that, though the constituent parts of a society are organisms, a society is not an organism, any more than water is an electron or a proton. The event called a society can disintegrate, but it cannot die, as an organism does. Indeed it is capable of being continually and inexhaustibly replenished by the power of its constituent parts to beget their kind.

It was probably the use of biological metaphor that caused the Victorians to think of a society as an organism. After Darwin had published his *Origin of Species*, biological metaphors became extremely popular, and, when the Victorian historians looked into the past and perceived that many energetic societies had disintegrated, they said that the society had "died."

They said the same thing about human culture, and Draper went so far as to arrange the intellectual history of Europe so that it accorded with biological principles. His idea was that, just as an organism grows from babyhood to youth, passes on to manhood and old age, and finally disappears, so the behaviour of each society has always gone through, and must always go through, the Ages of Credulity, Inquiry, Faith, Reason, and Decrepitude.

Herr Oswald Spengler introduced the same idea into his recently published cultural morphology, and openly maintained that culture is an organism. "To birth," he says, "belongs death, to youth age, to life generally its form and allotted span." He is even brave enough to follow the metaphor to its logical conclusion, and he says that the final "death" of every culture is "obligatory and insusceptible of modification." But he is a little nervous about the impression this will make on his readers; so he anticipates their criticism by questioning the intelligence of those who will venture to disagree with him. If we do not understand, he says, that "our choice is between willing this" (the "death" of our culture) "and willing nothing at all, between cleaving to this destiny and despairing of the future," then, we must "forgo all desire to comprehend history, to live through history, and to make history."

This biological conclusion is attractive because it is so easy. Intellectually it is quite inadmissible, for it is founded on a confusion in the use of simple words. We have grown so accustomed to the conception of a cosmos controlled by immutable laws that the meaning of the words we use is in danger of being obscured by their familiarity. We say, for instance, that the law of gravitation *makes* bodies attract one another and *makes* the apple fall to the ground. In other words, the term we apply to the natural behaviour is conceived as a force in itself. But the word "gravitation" is only a human conception by means of which we formulate in words the attraction which one body has for another. The reason why the apple falls to the ground is not the law of gravitation but because such behaviour is a constituent part of nature. Men have studied that behaviour and have observed that it is inevitable, that is, it is a law that it should so happen.

In regard to the death of a "culture," the observed fact is that in the past every energetic society has lost its energy and that no one can point to a society which has been consistently energetic

over an extended period. We may, if we wish, describe this process by using a biological metaphor, but that does not transform a society into an organism. The biological law that one day every organism must die was only formulated after an examination of the behaviour of organisms; and it is a confused thought which applies the law to anything which cannot first be demonstrated to have the same natural constitution. If we were to disregard the biological metaphor, and instead of speaking of the birth or death of a culture, we spoke of the manifestation or loss of social energy, we should no longer be misled by the words we use. We should also perceive at once that there is nothing unnatural about a society displaying great energy for ever.

But, though I submit it is possible, I offer no reason why any society should wish to display great energy for ever. Most reformers assume that a display of human energy is a desirable thing. I do not know on what evidence the assumption is based. Many effective arguments can be put forward on the other side. In the past the consequences of "civilization" have been as deplorable as its products have been pleasing. Besides, even if a display of human energy is assumed to be desirable no man has yet demonstrated that it is worth the price that must be paid for it. But, if a society did resolve to display great energy for ever, there would emerge certain cultural results which cannot fail to attract the attention of any speculative thinker.

In the first place the society would continually rise in the cultural scale. We ourselves live in a rationalistic age: that is as far as the vast majority of us have developed our powers; and we can no more predict or understand the nature of a higher culture than the Veddahs can understand our culture. Since we are quite unable to imagine, it is therefore useless to consider, what the culture of such a society would be, say, in twenty generations, but a continual rise in the cultural scale, about every three generations, seems certain. The cultural tradition would be continually refined and augmented; language and mode of expression would ever become more subtle, elegant, and precise. The society would begin to appreciate shades of emotion and judgment that are lost to us, and its vision would broaden, its thought deepen, beyond our mental powers. It would be able to grasp, with increasing facility, the meaning of those broad truths of which we only catch an occasional

glimpse; and we can dimly imagine the difference between their mental processes and ours when we reflect that the thoughts and expressions of the members of such a society would be as comprehensible to us as Shakespeare's sonnets are to a cannibal.

The society would also exert over the material universe a control that would be as astonishing to us as our ability is to the Australian aborigine. We can do a few things: we can fly through the air at a couple of hundred miles an hour; we can travel beneath the seas; we can also carry on a directed conversation without wires over long distances, control some vehicles by wireless waves, manufacture a few ingenious machines, and, after many trials, transmute an element or two. Such things are notable. But compared with what might conceivably be done they are as a grain of sand on an almost limitless shore. For there seems to be no limit to what men could do; their potential powers seem capable of indefinite development. Most of our own discoveries have been made in the last ten generations; many of them in the last three generations. How much greater would be the achievement, say, in twenty generations, of a society that continued to display great energy!

This increased control over the material universe would create an almost ridiculous wealth. When we speak of a wealthy society, of course, we do not mean the same thing as we mean when we speak of a wealthy man. A wealthy society is simply one that has developed the resources of its habitat; this is done by displaying human energy. A society that continued to display great energy would soon be producing commodities which would seem as "impossible" to us as the manufacture of silk out of wood appears to a man who does not know how it is done. Nor would the society ever be embarrassed, at least not for long, by any shortcomings in the nature of its habitat. Our merchants get very upset when something goes wrong with our supply of raw materials from abroad, but a society that displayed great energy for ever would have no patience with such nonsense. If its supply of any raw material seemed likely to fail, it would simply set its scientists to work to discover how to manufacture a substitute. And so on in every department.

Once we have attained to a degree of mental energy, all of us seem naturally urged to inquire into the nature of the unknown, and I suppose it is the unascertainable character of this cultural outcome which gives it such fascination. I do not think I am alone in desiring a

society to display great energy for ever, just to see what will happen. But if we contemplate the possibility of a society displaying great energy for ever, why not that of a society displaying the greatest possible amount of energy for ever? In that case the cultural results would be hastened.

This involves introducing into the cultural process an event that has never happened in a state of nature. In the past there have been societies that have displayed a little energy, societies that have displayed a little more energy, and societies that have displayed great energy for varying periods of time. There has never been a society that has displayed the greatest amount of energy. Nor could such a society ever occur in a state of nature, for, as I have said, Nature, however astonishing and marvellous, is wasteful and wanton. According to her scheme of things when a society is energetic only some men can display their greatest energy; other men have to suffer and serve them. At the same time there is nothing unnatural about a society displaying the greatest possible energy for ever.

I have compared a human society to a chemical substance like water. In the past human societies have fortuitously arrived into one of six states of energy, which may be compared with ice, water, hot water, hotter water, boiling water, and steam. These occur in a state of nature. But when we make a steam-engine we produce a kind of steam that never occurs in a state of nature—compressed steam. Moreover, we thus produce from water a power which has always been potential in molecules but which was never produced in a state of nature. A similar operation can be performed on a human society. Instead of being made to display great energy, a human society can be made to display the greatest possible amount of energy. Such a society may be compared to the steam which rushes out of a railway engine. This steam consists of the same molecules as once appeared as water; the difference is that by the human will they have been promoted into a state of terrific energy. Similarly, a society re-created to display the greatest possible amount of energy would consist of warm and wayward human beings, like any other society; the difference is that they would be placed in such an environment as to promote them to a state of the greatest possible energy.

Now, though compressed steam never occurs in a state of nature, there is nothing unnatural about it. Similarly, there is nothing

unnatural in the idea of a society displaying the greatest possible amount of energy. The one has been and the other could be created.

With this idea in our minds let me speak shortly of more profound matters. Their profundity does not give them a greater significance than other matters, like money and sex, which lie nearer to most human hearts, but I mention them because they show how great are the implications of the idea I am trying to put forward.

In recent years no subject has been debated in more profound disagreement than the significance of the second law of thermodynamics. The disagreement does not arise from any doubt about the facts but from a disputed interpretation of their meaning. No one denies that the amount of disorganization in the material world, entropy, always increases; but there is no agreement about the cosmic significance of the increase.

What we call a material object seems to consist finally of organized energy. We do not know what energy is; we only see its fruits; but we do know that as the events in the material process occur there is a continual decrease in the organization of energy. When kinetic energy is turned into heat energy, as when a stone hits an obstacle, there is still the same amount of energy, but if we collected it together again we should find that it was not enough to send the stone back where it came from. The reason is that the energy has been disorganized. The same thing happens when light falls on an object that looks white. All of the light is reflected, but there has entered into its organization a random element which prevents that particular shaft of light from ever being the same again. It is this random element apparently, this tendency towards disorganization, which increases as the material process takes place; and for this reason, as Eddington puts it, time may be said to have an arrow. The events in the material process have occurred, are occurring, and will continue to occur in a certain direction. After inconceivable aeons have passed there will be no more perceptible events; no material thing can ever come into existence again. The energy that supports the material cosmos will be completely disorganized and evenly diffused.

There seems to be a direction in the cultural process too. When human energy is continually exerted in great quantities the cultural changes thereby produced necessarily occur in one direction and cannot occur in any other direction. The evidence is scanty, but the

direction seems to lie towards elegance, refinement, exactitude, and control. If a society were to display great energy for ever, its behaviour would continually change in that direction. The changes would not take place in a straight line, which is alien to Nature, but in waves, and if we only considered the behaviour that represented the crest of the waves we should be tempted to say that the changes occurred by jumps. But the society would never falter. After a crest a trough, and after a trough a crest again, for ever. As aeon succeeded aeon the society would still exist as an organized unit, still rise in the cultural scale, still refine and augment its cultural tradition, and, as the aeons passed, exert a greater and yet greater control over the events in the material and biological processes. As the material process proceeded to its appointed end by the inevitable increase of entropy, the cultural process would emerge out of it; and, if this is true, I do not see how the whole Cosmic Process can be regarded as anything else than an indivisible trinity of which one part is destined to emerge out of the other parts. Process is Cultural Process Emergent.

Some students, however, do not think that the material cosmos will have a heat death. They admit that the amount of disorganized energy is continually increasing, but they suppose that in some remote regions the energy is being organized again and that radiation is continually being formed into material once more.

This was a favourite notion of the Hellenistic stoics, but there is no definite evidence to support it. Rather does it seem to be demanded by the temperaments of those who hold it. They are depressed by the thought of a material cosmos which is to be finally extinguished and, to cheer themselves, embrace the possibility of continual creation. I find it difficult to understand why they should be gladdened by the idea of a never-ending cycle of death and re-birth. Eternal repetition does not seem more comforting than utter extinction. But as the choice of either opinion is due to personal prejudice, there is no point in debating the question.

Eddington is one of those who exalt the second law of thermo-dynamics to a dominating position in the scheme of things. The professional reply to his suggestions has been made by Milne, who denies that entropy increases in the cosmos. According to him the cosmos is a system containing an infinite number of sub-systems (nebulae); each sub-system contains an infinite number of particles,

the infinity occurring at the nucleus. Milne admits that the law of entropy applies to each sub-system but denies that the cosmos as a whole has any ultimate fate. Entropy points time's arrow, but time is to be regarded as a flight of an infinite number of arrows. The material cosmos is an ever-continuing system. It once knew birth but can never know death. The second law may decree that every material event must one day cease to exist; the inevitable increase of entropy may decree the final extinction of every sub-system; but the race of sub-systems goes on for ever.

Myself, I find it hard to think about a finite cosmos in which the number of material events is potentially infinite; but this may be due to some resistance in my unconscious mind. One thing at any rate is clear: if Milne is right the material process has no special direction; it just goes on and on repeating itself. In that case its relation to the cultural process must be differently understood. Yet the final result is the same; the cultural process still emerges as a conqueror. Indeed, the never-ending appearances of nebulae might facilitate the efforts of a society displaying great energy unceasingly; for there would be no time-limit by which it must develop its potential powers to such an extent as to gain a complete control over material things. Eddington's interpretation of the second law seems a much sterner one. If he is right, there is a definite point in the time-dimension (the end of time for him) by which the society's control over the material process would have to be complete. Milne is more generous and gives the society an infinite amount of time and an infinite amount of organized material. But in either case, it seems, process must be regarded as Cultural Process Emergent.[1]

This can be stated in another way.

A scientist tries to describe the structure of natural events and to study their behaviour; it is not his job to account for their existence, but if he wishes to do so he has to hypothesize a force or activity as being responsible for the original act of creation. Let this force or activity be called God.

There is no need to go further and to suppose a continual or spasmodic interference by God. Once begun, the cosmic process goes on of its own accord, though, of course, God may be needed to

[1] Eddington has summarized his views in his *The Nature of the Physical World*, pp. 63–86, and in his *New Pathways in Science*, pp. 50–71. For Milne's arguments, see his *Relativity, Gravitation, and World Structure*, especially pp. 281–6.

retain it in existence. Whether that is so or not, the hypothesis of a First Cause is an intellectual necessity if we wish to account for the existence of the things we experience.

Aristotle, Thomas of Aquinas, and many other thinkers have appreciated the necessity for this assumption, but some of them then proceeded to credit God with other attributes. That was because they also needed God for their comfort's sake; the qualities they credited to God were those that they liked to think God had, and they advanced several "proofs" that God was as they wanted God to be. When we are considering nothing but observed data this is not permissible; our emotional requirements or convictions do not matter. We have to disregard the psychological urges that make us ask for a certain God, and to confine ourselves to the fact that, for the sake of intellectual completion, we need God to ensure creation. It is not possible to decide, without further evidence, the nature of God. We certainly may not assume that God is personal. I speak of God, therefore, not as Him but as It.

Now, as I have said, if Eddington is right in his understanding of the second law of thermodynamics, the events in the material process must occur in a certain direction. We must conclude that this is God's Purpose. A purpose involves a will. According to this terminology, therefore, it is the Will and Purpose of God that the material process shall take a certain direction and no other.

We must draw a similar conclusion about the events in the cultural process. This also has direction. The difference is that a human society does not seem to be compelled to follow that direction. Unlike a nebula, it can choose, and according to the nature of its choice, it helps to fulfil or thwart God's Purpose, and the changes in its behaviour are in or away from the direction of the cultural process. But the changes in its behaviour occur in this direction only when a society displays the greatest possible energy. It seems to follow that it is God's Will and Purpose that men should behave like that. It seems to follow, too, that a society organized for the display of the greatest possible energy is in a right relation with God; for it is hastening the fulfilment of Its Purpose.

This reasoning is prettier if Eddington is right about the direction of the material process; but whatever view is adopted about that, the contemplation of such a society is of absorbing interest. As soon as I had completed the researches published in my *Sex and*

Culture, I began to consider what the social, political, and economic structure of such a society would be. Plainly it would differ from our own.

To this hypothetical or experimental society I have given the name Hopousia. Before we can discuss at length what the structure of such a society would be it will be necessary to consider the structure of societies in general, and the relations between the individual, the group, and the society.

CHAPTER IV

Structure

THE STRUCTURE OF A SOCIETY
THE INDIVIDUAL, THE GROUP, AND THE SOCIETY
THE INDIVIDUAL AS AN ENTITY

THE STRUCTURE OF A SOCIETY

IN discussing human affairs it is always difficult not to be influenced by the mental tradition in which we spent our youth. In our case, as I have said, this tradition was a rationalistic one. This makes many of us hold some opinions which are contradicted by observation of the external world.

Upholding the human reason as the sole arbiter of validity, rationalists are, as I pointed out in the first chapter, essentially individuals. They lack the common bond that unites men in other cultural states; the essence of their creed is that each person has his own standards of judgment, conduct, and value. They think and speak of themselves as individuals, adopt an individualistic attitude towards everything, and indulge in few common enterprises except those which pursue pleasure or serve and preserve their material interests.

Thus, if asked, a rationalist will say that a human society is a collection of individuals. An individual himself, emphasizing and insisting on his individuality, he can think of a society in no other way than this. The idea that a society is a mere collection of individuals is particularly common among socialistic reformers. But no man can point to an example of such a society, and, if we base our conclusions, as we must, on the external evidence alone, we have to abandon the idea.

To say that a human society is a mere collection of individual males and females is like saying that a material substance is a mere collection of electrons and protons. True, some physicists when addressing popular audiences, are accustomed to speak as if sub-

stance were a mere mass of electrons; but this is sheer carelessness. No man can point to an example of such a substance. Nature is structure through and through. A material substance does not consist of electrons but of these units collected into groups. First they are gathered into atoms, which vary in size and constitution. These atoms are then united in molecules, which also vary in size and constitution. The event called a material substance emerges from this structure; and its chemical properties depend, first, on the nature of the atoms, and, secondly, on the way in which the atoms are placed in relation to one another.

In a similar manner a human society is not a collection of individuals but of human groups. The males and females are first united in families, which vary in size and constitution; these are then gathered together into moieties, clans, septs, *grosfamilie*. The families are also united territorially into such political units as hamlets, villages, towns, boroughs, and shires. There are also cultural and economic groups, such as secret societies, brotherhoods, sisterhoods, companies, gilds, unions, fellowships, factions, parties, sects, crews, regiments, and federations, etc. The event called a human society emerges from this structure; and its cultural behaviour depends, first, on the nature of the groups composing it, and, secondly, on the way in which these groups are placed in relation to one another.

The outstanding difference between a human society and a chemical substance is that whereas, so far as we know, an electron can only be part of one atom at one time, a human being can be a member of any number of human groups. But this fact does not alter the fundamental character of a society. The individual, like the electron, is important, but by himself he is nothing, just as an isolated electron is nothing. Moreover, it does not matter how many electrons there are, by themselves they are unable to form a material substance; this cannot emerge till a number of electrons have attached themselves to other energy-producing units and thus produced atoms. These atoms are then packed together in one of many different ways, and the substance is formed.

In a similar manner a mere collection of human beings does not produce a society, which only comes into existence when a number of persons of both sexes have formed themselves into human groups. As the energy of the society increases or decreases individuals leave one group and join another. Some groups may even disappear;

others may be created. But these changes do not change the fundamental character of the structure, which remains the same.

The truth is obvious as soon as we examine any known society. Consider, for instance, uncivilized societies. The details of their structure varies, as their behaviour varies, but fundamentally the structure is the same. First, the males and females are gathered into families. In most cases the family consists of man, his wives, and his children; but there is an intense variety within the pattern. It is usual, perhaps, for a man to live with his wives in a single economic unit, but this rule is by no means invariable. In some cases, for example that of the Wayao near Lake Nyasa, each wife lives in her own village, and her husband visits her when he feels inclined. This is also the case among some of the Bantu-speaking peoples of Tanganyika Territory; the Wabena are an example. It is common, too, for a woman to rear her own children after weaning them, but this is by no means the rule. Sometimes, as among the Andaman Islanders, parents exchange children as we exchange gifts and keepsakes; in other societies children are sent to the house of a clan-brother or a clan-sister to be brought up. Again, the young boys are sometimes segregated at an early age and sleep and have their adolescent being in a bachelors' hall. There are many examples of this.

Every uncivilized society known to us has also some clan-organization. Indeed, this larger social group is so important a part of the structure that most uncivilized men think and speak of themselves in terms of it. Their membership of the subsidiary group is more important than their membership of the society. In a similar manner the Romans regarded their membership of the *gens* as important. The Irish sept, the Scottish clan, the Hellenic *phratry* are other examples of this larger social group.

In an uncivilized society the social group is often the territorial group too. Most energetic societies distinguish between a kindred and a village, but in the South Solomon Islands, for instance, the *komu*, kindred, was also the village; those who lived in the same place were also of the same blood. This was also the case among the Plains Indians and many other peoples.

In addition to families, clans, and territorial groups, there are always other groups in a society. This is especially obvious when we study an uncivilized society. If the group is an economic one,

like that of the iron-smelters and others in Uganda, the members cling together to protect their professional and material interests. Other groups are merely cultural and conduct complicated ceremonies. Sometimes these cultural groups have an economic character too; they are sometimes magical fraternities. Examples of such groups are the *dukduk* of New Britain, the *whare kura* in New Zealand, the *ekkpo*, *kufong*, and *ogboni* in West Africa, the *nkimba* in the Lower Congo, the *mide* of the Ojibwa Indians, and the *witcita* of the Omaha Indians.

We also find such cultural groups as the Tahitian *arreoi*, a highly organized band of strolling players, with many sub-divisions and strict discipline. The *uritoi* of the Caroline Islands belongs to the same class of group.

Nowhere do we find a society that is a mere collection of individuals. If a hundred men are cast upon an uninhabited island the first thing they will do is to form little groups among themselves. When this has been done a human society emerges. It is natural for human beings to behave so; human life cannot be lived in any other way. Just as it is part of the inherent nature of electrons to join protons and thus produce atoms, and for atoms to join other atoms to produce molecules, so it is part of the inherent nature of the human organism to join with other human organisms and form groups of various and varying sizes and kinds.

The idea that a society is a collection of individuals is one that could only occur to a rationalist. A rationalist likes to isolate himself mentally and physically from his fellows, and to console himself with such thoughts about the world as come to a man of his temperament, experience, and mental development. But only rationalists wish to behave like that. Men in other cultural states are eager to share in the rights and responsibilities of their fellow men and to incur the joys and miseries of being members of their family, trade, profession, or religion. To these a man feels bound by common interests and aims; to each he owes a loyalty that conflicts with his other loyalties; and the task and delight of his life is to adjust these conflicting loyalties so that he may remain in a right relation with each group and obtain from it the satisfaction that his nature demands.

It is true that if we analyse a society into its final parts we find nothing but males and females. Similarly, if we analyse a material

substance into its final parts, we find nothing but electrons and protons. But a mere collection of electrons and protons is nothing and can never be anything. It has never existed and could never exist, for it would disintegrate at once. Similarly, a mere collection of males and females is nothing and never could be anything, for it would never hold together. In a human society structure is as important as in any other natural event.

Analogies are often misleading, but the analogy between a material substance and a human society is a very useful one, and I tie myself to it the more closely in order that I may the more easily dispel the notion that a society is a mere collection of individuals. Analogically, an individual may be compared with an electron; a family with an atom; and a clan, a political group, or an economic group with a molecule. This comparison is not exact, but will serve a useful purpose.

In his mistake about the nature of a society the rationalist is apparently supported by the evidence of the senses; and it is true to say that in studying Nature our senses will mislead us if we are not careful. Thus, when we turn a tap, our senses tell us that the flow of water is continuous; but there are actually billions of gaps between the billions of molecules that constitute the flow. These molecules are not hard lumps of dense matter as our senses suggest; they consist of atoms, between which there is space. And these atoms are not hard lumps of matter either. In each there is a nucleus surrounded by a varying number of sentinel electrons. Between the nucleus and the sentinel electrons there is space.

When we observe human activity our senses mislead us in a contrary manner. The whole society is too big for us to see all at once; what we observe is the behaviour of individual human beings. Our senses tell us that at various points of space these individuals have their being, each impelled by forces within him. We do not see the groups of which he is a member, and which limit his activities in a most significant way. At first sight, indeed, each individual seems to be spatially removed from every other one, but every group of which he is a member is a compact unit. There is also a distance, spatial and cultural, between the groups; this also we cannot see, but it is there. Yet the groups are actually conjoined, and, united, form the society.

If we watch human activity from a height, from an aeroplane or

balloon, we seem to observe hordes of individuals in fortuitous gatherings; but there is actually no chance about the groups we see. Again, our senses will mislead us unless we stop to think. They mislead us in a similar manner when we raise our eyes to the heavens and look at the stars. What we see there is not myriads of stars in fortuitous gatherings: the stars are in definite groups, according to their kind. Each star moves in its orbit, not as it likes, but in the company of others, its movements depending on its energy and on its chemical properties. Even so individuals are not scattered about like grains from a pepper-pot, thickly here, thinly there, by chance. Each is a member of a greater whole or wholes, and throughout his life he moves in his orbit, not as he likes but in company with others, his movements depending on his natural constitution, his experience, and his environment.

Consider another natural event, a gaseous cloud. Its density varies from point to point. Where a molecule is now the density is great; in the gaps between the molecules there is no density at all. Even so the density of a human society varies from place to place and from time to time. Sometimes the groups are evenly spread over the countryside; at other times they huddle together in cities. In thus changing their behaviour the groups are not free to do as they like; they are reacting to a given set of circumstances in accordance with their inherent nature. In designing the structure of Hopousia we shall have to subject the members of the society to such conditions that they will naturally move into the positions, spatial and cultural, that we desire for the purpose of the experiment.

But this is not the first task. The chemical properties of a material substance depend, first, on the kind of atoms that compose it, and, secondly, on the position they occupy in relation to one another. These are separate structural items and must not be confused. To create a substance we must first know what kind of atoms we want. Similarly in creating Hopousia we must first decide what kind of human atoms and molecules we need to produce the cultural results we desire. The manner in which these units will have to be placed in relation to one another is a separate matter, which will be resolved gradually as we proceed.

THE INDIVIDUAL, THE GROUP, AND THE SOCIETY

In deciding what kind of human atoms and molecules Hopousian society will have, we must not allow our judgment to be influenced by preferences. Just as the atoms composing different chemical substances differ in size and constitution, so in the past different societies have adopted different forms of the human family; and any given society has changed from one variety of it to another from time to time. Indeed, various forces are now at work in our society to change the character of the family, so that reformers and moralists are continually discussing what kind of family we "ought" to have. With such opinions we are not concerned. Our task is to discover what type of family the Hopousians must have in order that they may display the greatest possible energy unceasingly.

The constitution of the family involves the relations between the sexes. Here again we must avoid expressing any opinion about what we think the relations between the sexes "ought" to be. Opinions on the subject are merely a reflection of the age in which they are expressed, and "modern" opinions could not be other than they are. Like opinions about the family, they are due to be expressed here now and are duly being expressed. They have only a historical significance. Our task is to decide what the relations between the sexes will have to be in Hopousia in order that the purpose of our experiment may be fulfilled.

The nature of the human molecules that will compose Hopousian society must be resolved in the same way as we resolve the nature of the Hopousian family and relations between the sexes. Our personal preferences are irrelevant. Our task is to decide the kind of groups that will have to exist in order that the structure of Hopousian society may fulfil the function for which it is being designed.

Just as the molecules that constitute chemical substances vary in size and kind, so in the past different human societies have been composed of different human groups; any given society has consisted of different groups from time to time. The sovereign power has been transferred from one group to another as century succeeded century, and when such a change has taken place, various opinions have been expressed about what the rights of the individual or of any group "ought" to be.

Such a change is taking place among us now. During the last hundred years our Hanoverian monarchs, like the Roman Antonines, have been supported by the middle classes, who have dominated our society. If we remain in a state of nature the period of middle-class domination will come to an end about 1980; after that our society will not produce any more such middle-class persons as govern it now. Its whole character and structure will change, as the character and structure of Roman society changed after the death of Commodus. Even at the present time the beginnings of the change are apparent; we have already begun to adopt the kind of bureaucratic despotism that characterized the rule of the Severi. The result is that among us to-day the relation between the individual and society is being much discussed.

Generally speaking, two opinions prevail, opposed to each other. Some persons loudly protest against the transfer of the sovereign power from Parliament to the bureaucrats; others applaud every change that increases the power of what they call the State. These opinions have some psychological interest, but nothing more. Like "modern" opinions about what "ought" to be the relations between the sexes, "modern" opinions about what "ought" to be the rights of the individual could not be other than they are. Due to be expressed here now, they are duly being expressed and are of a familiar pattern. Indeed, the manner in which the bureaucrats are now being authorized to make (as distinct from administering) our law is another illustration of the state of nature our society is in.

The manner in which reformers are accustomed to discuss the relation between the individual and the society is open to criticism. First, they overlook the existence of human groups; this arises from a mistaken view of what a society is. Secondly, most reformers speak as if the rights of an individual were definite things which an individual either does or does not possess. The truth is that rights are of various kinds. The so-called moral rights perhaps do not exist; they are merely invented by reformers who wish to give a universal character to their personal preferences. But there are at least three kinds of rights: social, political, and economic. It is foolish to speak of them in a mass and then to imply that a person either has or has not got them. It is quite possible to have many economic rights and no social ones; in the past many slaves have been in that position. It is also possible to have full political rights

but few economic ones; many wage-earners are in that position to-day.

Rights have also a way of getting confused with privileges; but the privilege to do a thing is not the same as the right to do it. Rights are a reflection of the relations between the individual and the groups of which he is a member; privilege is created by class. And when we speak of a person's class we must always be careful to distinguish between his social class, which depends on his birth, his economic class, which depends on his income-level, and his cultural class, which depends on his standards of judgment and value. Some reformers are in the habit of crying that they want a "classless" society. The cry is meaningless till we are told what kind of class is being referred to.

I make these points because I do not wish any shallow confusions to complicate our discussion of what the rights of an individual in Hopousia will have to be. We shall not know this till we have completed our work. An individual's rights depend on the nature of the groups that constitute the society. These groups are of three kinds—social, political, and economic; and we shall not know the position the individual will have in Hopousia till we have created all the groups. Still, it is convenient to consider at once a few broad truths about the individual. It will help us to check the correctness of our conclusions about the nature of the various groups.

In all other Hopousian matters we shall induce our conclusions from a study of the past; but the relation between the individual, the group, and the society cannot be resolved in that manner. The reason is that a study of the individual takes us outside social science into psychology. We shall be able to test the validity of our conclusions by a reference to what has happened in the past; but that is all. If a crime can be committed against the mental process called science, that crime consists in the application to a whole of conclusions based on the study of a part, and vice versa. Evidence about the behaviour of the whole is not relevant to a study of the behaviour of the part; evidence about the behaviour of the part is not relevant to a study of the behaviour of the whole. The study of the individual human being belongs to biology and psychology; the social scientist has nothing to do with it at all. Social science is the study of social behaviour; evidence about the behaviour of societies is not relevant to the study of individual behaviour. In what I say about the nature

of the individual I merely repeat what I have learnt from biologists and psychologists; my knowledge of social behaviour does not enable me to make any original contribution to the subject of the individual.

In their opinions about the nature of individuals, as in all other matters, our rationalists are apt to select the half of the truth that appeals to their temperaments and to call it the whole truth. Thus some say that the chemical condition of the human organism fully determines its behaviour, which is like a shuttlecock in the breezes blown by glands and hormones. These men overlook the influence that a mental state exerts over a physical state. Others declare that every individual, whatever his chemical condition, is free and has full control over himself. These forget the effect of infantile experiences on adult behaviour. The truth, I fancy, is that in the present state of our knowledge the opinions must not be regarded as contradictory but as complementary. To get this clear, I revert to my analogy.

The analogy between an individual and an electron is very close. Every material substance finally consists of separate events, protons and electrons,[1] which are in constant relation with one another. Each has a field of force, and when it comes within the field of force of another event it is attracted or repelled according to its nature. In a similar manner a human society finally consists of separate events, male and female organisms, which live in constant relation with one another. Each has a field of force into which other individuals constantly arrive, being attracted or repelled according to their nature.

We do not know what an electron is; all we know is that the force or object we call an electron assumes different appearances under different conditions. All existence is contingent; every natural event changes according to its experiences; and the force or object called an electron has at least a dual character. When it forms part of a gas it appears as a particle; when it penetrates a thin metal film, as a wave. It is possible that it assumes these different appearances according as it exerts energy or has energy exerted on

[1] It is now commonly supposed that the proton is really an amalgamation of a neutron and a positron, but I retain our old familiar friend, the proton, because students of human affairs are not yet accustomed to speaking about neutrons and positrons. The latter indeed are still imaginary. But if the negative proton, also imagined, were proved to exist, I should have to speak in other terms.

it; but I do not think there is any definite evidence of this. It is also possible that under still other conditions the electron appears neither as a wave nor as a particle but as something quite different; but these are the only impressions that any electron has ever made on our photographic plates. We cannot say that the electron does not possess a multiple character, but we know that it has at least a dual one (particle and wave).

In a similar manner every individual human being is at one and the same time an entity and an influence. As an influence he exerts energy and affects the behaviour of all those who come within his field of force; as an entity he feels the influence of the energy exerted by those into whose field of force he comes. These two characters, the entity-character and the influence-character, co-exist and blend and cannot be disunited; but for the purpose of a short analysis of the first I separate them.

THE INDIVIDUAL AS AN ENTITY

In studying any individual we encounter difficulties similar to those met by physicists who try to obtain exact information about the movement and location of an electron. Scientific knowledge is only gained in one way, namely, by impressions made on the senses. These impressions arise from the impact of photons, which are indivisible; so we can never see anything smaller than the wave-length of a photon. If we direct light on to such an object, in order to see it, the light being more massive knocks it away.

A similar situation confronts us when we try to obtain some exact knowledge about an individual; the very effort to obtain the knowledge affects the subject of our inquiry; this inquiry therefore can never be successful. As soon as the human organism begins to breathe it is subject to the influence of every word sound, colour, mood, and incident in its environment. These affect its subsequent behaviour. We cannot measure the extent of the influence; all we know is that it is there. If we try to gain some exact knowledge of a person, our very approach has an effect on him, and the person with whom we come into contact is not exactly the same person that existed before we approached; there is always the chance, even a probability that the person approached will put up a resistance to

us. This resistance has an influence on him and he gradually becomes less and less like the person he was before we began our approach. In most of us there seems to be an urge to conceal our innermost minds; Freud was so impressed by the phenomenon that he hypothesized the existence in the human mind of a force he called the censor.

In searching for information about the nature of material things, a scientist does not always direct light on to, but sometimes relies on light emitted by, an object. In this case he does not see the object as it is but as it was before the light was emitted. If the object is large, like a star, the emission of the light does not make a great difference to it; but if the object is small, like an atom, the emission of the light definitely changes its condition. The result is that the knowledge gained by the scientist does not refer to the present but to the past. The impression he received is not of the atom as it is but as it was before it emitted the photon of light. "That's *X*—that was."

This, at any rate, is the case when an energetic photon is emitted; the same situation does not arise when the atom emits a less energetic one. A less energetic photon travels comparatively slowly, and by the time the light reaches the eye the atom is in a different place. Thus in this case we do not see the object where it is but where it was before it emitted the photon. Once again, "That's *X*—that was."[1]

In a similar manner our information about an individual is not always gained by searching for it; he sometimes submits himself for analysis. But the course of the analysis has an effect upon him; he is changing the whole time; and the information collected by the analyst does not refer to the individual as he is but as he was when he first met the analyst. It is even possible that the prospect of being analysed has such an effect on a man that he changes considerably. In the early days of psycho-analysis dreams were regarded as wish-fulfilments, but Jung has shown not only that a patient's personal reactions to the practitioner are important but also that some patients, before they even meet the practitioner, have dreams which are symbolic representations of the difficulties they will have with him.[2]

[1] The phrase is happily used by Eddington in his *New Pathways in Science*, p. 92.
[2] C. G. Jung, *Modern Man in Search of a Soul*, pp. 8–9.

We have to recognize, then, that we can never know exactly what an individual is. This is not due to the crudity of our intellect or senses but to conditions imposed on us by Nature, who has ordained that every experience shall have an effect on us. Like the physicist who tries to obtain exact information about an electron, the man who tries to obtain exact information about an individual finds that he cannot do so.

Our cells are continually renewed; in our old age our stature shrinks by inches but all the time our minds are changing too. In addition to these organic changes every human being also endures constant psychic change. A rationalistic age is always an individualistic one; so nowadays we hear much about individuality as if it were a definite thing which came into existence at birth and lasted till death. The facts contradict this notion. An individual is not something rounded off and complete; every person is always in a state of constant change. As soon as a child is born he is subject to a multitude of shocks and impressions, which he receives from his parents' behaviour and temperament, their friends, his teachers, and his companions at play and at school. Their moods and actions impress themselves on his plastic mind, and, wittingly or unwittingly, the emotions connected with a particular experience are banished from his conscious mind, to form themselves into an unconscious element which subsequently exercises a great and even dominating influence over future behaviour. The child also has desires which, if he cannot fulfil in one way, he seeks to fulfil in another, and often roundabout, way. Indeed the way is often so roundabout that a desire is sometimes hardly identifiable from an observation of the means adopted to satisfy it. Many adult persons are seen to do queer things, not because they are conscious of wanting to do them but because they feel they must. Having done them they feel glad; for the unconscious desire has received satisfaction.

As the child grows he suffers the organic changes that are a compulsory part of organic life. He begins to experience the emotions of adolescence, and to discover that he has inside him mysterious forces that urge him to do many things of which he has no conscious desire. But he also finds that other boys, though they possess many similar desires and experience many similar emotions, have different standards of value and judgment. They despise what he admires and love what he hates. This often frustrates him, and he soon discovers

that in human life he must not only plot and scheme for what he wants but also make allowance for the impression these wants will make on the minds of other people. To their standard of conduct he has to adjust himself, and when he enters his trade or profession he finds that he is by no means a free agent but a part of various groups all of which impose some mental limitations on him and to which also he must adjust himself. This changes him still more, and further changes are effected when he experiences the joy that accompanies satisfaction, the anguish that follows frustration; the concern of economic insecurity, the calm of security; the pangs of jealousy and the checking of greed; the quiet that fills his heart when he contemplates what he feels to be good; and all the other common emotions of human life. Nor is this the end of change. As he lives on he is still subject to the influence of sights and sounds that please or displease, attract or repel him. Every incident tells; every word, however uttered; every act, however directed. Every glance, however quick, has its effect, which may be small or large according to his previous experience and the energy of the person that makes it. Doubtless there is always a substratum, physical and psychical, persisting through life; possibly the depth of this substratum, which varies with different persons, increases with age; but in any person's life nothing is permanent; all is change. The entity we call the individual never exists in exactly the same condition for more than an instant of time; and what he is at that moment is unknowable except approximately. We live in the time-dimension, and to think of a man without his duration is like thinking of him without his inside.[1]

Thus even if we could obtain exact knowledge of an individual and we discovered that his present behaviour was fully determined, we could not accurately predict his future behaviour. Between the time of the prediction and that of the behaviour predicted, he might have an experience altering him so greatly as to make him react to the event in a different manner.

The fact that we can never know exactly what an individual is at any given moment does not mean that his behaviour is indeterminate but that it is essentially indeterminable. It may or may not be deter-

[1] Cp. A. S. Eddington: *The Nature of the Physical World*, p. 53: "To think of a man without his duration is just as abstract as to think of a man without his inside." I am not sure what "abstract" means in that context, but the general sense is clear.

mined; we cannot tell and we shall never know. In our study of individual behaviour Nature has imposed on us a handicap from which we cannot escape. This prevents us from collecting the evidence from which alone we could judge.

Rationalists have often asked whether we are determined products or not and whether we have free-will or not. Doubtless they will continue to ask, but they will get no answer except the one dictated by their temperaments. No scientific answer is possible; the necessary evidence can never be collected. Any discussion of the subject is therefore futile. There are some things in the cosmos we can never know; this is one of them. The wisest plan is to admit the fact and to concentrate on a study of other things.

But we can definitely say that every person's behaviour is determined to some extent. It is convenient to note the forces that help to determine it.

I suppose that in this connection most persons would first murmur "race." Race is certainly a useful word, but, alas, as commonly used, it has no meaning. When it has a meaning it is a classification like a dog's breed and denotes certain physical features, like the colour and texture of the hair, the colour of the eyes, the shape of the head, the stature. But it is not commonly used in this restricted sense, even by anthropologists.

Thus some persons speak of the Mongolian race, by which they mean the people with slanting eyes who live in, or whose ancestors lived in, the geographical area called Mongolia. But this classification is most unsatisfactory, for many people who possess slanting eyes are not included as members of the Mongolian race, which seems to be a rough and ready term for Mongols and Tartars. Other persons use the word "race" to denote skin-colour, which they seem to think depends on geographical environment. There is no evidence to support this easy conjecture. Some men who live in the tropics are black, like those in Africa; others are yellow-brown, like the Indians of the Amazon region. People who live in temperate climates are sometimes white, like us, and sometimes dark brown, like the Tasmanians. It is possible that skin-colour darkens according to the length of time during which a society lives in the tropics; but there is no evidence of this one way or the other. We do not know how long the Sudanese, the blackest of the African peoples, have been where they are now or how long the men we call the Tasmanians had

been in Tasmania before we met them. All we know is that statistically yellow men are predominantly round-headed, black men long-headed.

"Race" is sometimes used to denote a linguistic group. Thus we hear of the Latin race and the Celtic race. Of all the meanings of "race" this is perhaps the least defensible and the most confusing. The so-called Latin races, that is, people who speak a Latin language, includes both long-headed and round-headed men; the so-called Celtic race includes tall fair men as well as short dark men.

Some men think that the Jews are a race in the same way as the Latins are a race; but if the Latins are called a race the Jews cannot be a race at all. They must be part of the Semitic race, which is another linguistic group. Other men think that the Jews are a race because they have distinctive physical features, for example the Jewish nose. But the so-called Jewish nose is neither Jewish nor Semitic but Hittite. So if nose-shape is taken as a criterion of race the Jews must be regarded as Alpine, which is so absurd that we are forced to admit that the Jews are not a race but a religious group.

We cannot yet read much Hittite writing, but their language is thought to have been Aryan. Unlike most other Aryan-speaking people, the Hittites were round-headed. We sometimes hear of the Aryan race; this is another linguistic group. Aryan-speaking peoples include Hindus, Persians, Armenians, Americans, and all Western Europeans except Basques. It is possible that originally the Aryan tongue was spoken by members of the Nordic race; but few Aryan-speaking peoples are now Nordic and to speak of an Aryan race means nothing at all.

Serious students can only use the word "race" to denote physical varieties within the human pattern. We do not know how they arise. Besides the Nordic race, which is tall, fair, and long-headed, there are only two accepted races, the Mediterranean, short, dark, and long-headed, and the Alpine, short, dark, and fair, and round-headed. But we must remember that if we use the word in this sense we may not speak of the Latins or of any other linguistic group as a race. Some Latins are Mediterranean, others Alpine. Nor may we speak of a nation as a race; for that would be using for a part a word that denotes a whole. Thus the members of the Swiss nation, though they belong to two linguistic groups, Latin and Teutonic, are almost exclusively of the Alpine race; but we may not

speak of the Swiss race, for the Hittites were Alpine too. No pure race, that is a society of people possessing the same physical features, is known to us. Perhaps it has never existed; we do not know. But we must either discard the word race altogether or use it to denote the physical traits mentioned. Of these traits head-shape seems the most persistent.

If we use the word in this manner we must conclude that, so far as human behaviour is concerned, race has no significance. There are no innate mental differences between persons of different races. Potentially, all races are capable of the highest culture; the minds of all people of all races work in the same way if the society is in the same state of energy. No matter what uncivilized people we study, whether they are Australian blackfellows, Bantu, Sudanese, Melanesian, Polynesian, Papuan, or American Indian, the evidence is the same.[1] We have to believe that, whether hair is dark or fair, curly or straight, eyes blue or brown, heads long or round, noses flat, curved, or straight, the pattern of a society's behaviour is not affected. In the past a society has behaved zoistically, manistically, deistically, or rationalistically according to the state of energy it has happened to be in. It is certain that an individual's race (in the physical sense) is determined for him; but there is no evidence that this controls his behaviour.

Other things besides physical traits seem to be determined for us; but we cannot say what determines them. We enter a room decorated in a certain colour and feel vaguely uncomfortable there; similar feelings are experienced by others among colours that we like to live with. In some places, too, we feel we belong; other places arouse in us a feeling of antipathy. With some persons, meeting them for the first time, we have immediate sympathy; others are disliked at sight.

Everyone admits these elementary facts and none doubts that the preferences are determined for us; but none knows whether the feelings are a manifestation of physical or psychical influences. I am prepared to believe that each of us emits a force of a certain wave-length and that immediate likes and dislikes depend upon the similarity or dissimilarity of these wave-lengths; but there is no

[1] For some evidence on this point and a reference to other evidence, see my *Sex and Culture*, para. 70. For evidence in connection with the loss of mental energy after puberty, see *Sex and Culture*, n. 670.

evidence whether this is true or not. The waves of energy we emit may even create, as some suppose, an aura round our bodies of different and varying colours; but again there is not yet any evidence about this. It would certainly be rash to think that our bodies ended where our senses tell us that they end. Those who are dogmatic about what our senses tell us are the least scientific of men. It is possible that colour preferences, likes and dislikes, and radiation, if any, from our bodies are not physical but psychological phenomena. A friend once told me that he disliked yellow because his mother liked it. Doubtless many factors influenced his decision, but one of the most powerful was evidently something in his mother's conduct.

If we examine the forces that can be shown to determine the behaviour of an individual, in so far as it can be said to be determined, we find that they are not racial but cultural. The organic condition in which we issue from our mother's womb is definitely determined for us but when we study adult behaviour we find that cultural experiences, not racial or physical traits, are the things that count. The evidence about racial traits is indeed so puzzling, vague, and contradictory, that we cannot even say how they are inherited or whether they are inherited at all. We do not yet know what physical items are necessarily received from our parents or what items we shall inevitably pass on to our children. Some children inherit their parents' inheritable diseases; others escape them, suffer from diseases their parents never had, and then hand them on to some of their children. The same pair of human beings often produces children of widely different physical appearance; some of the children produced from the same womb, fertilized by the same male, have brown eyes, others blue; some are dark, others fair; some have loosely knit tall frames, others are compact and deep-chested. If the behaviour of an adult individual is determined at all the determining forces are not physical but psychological.

Each of us knows that we react to particular events in a manner we cannot explain; we make little gestures that our friends learn to associate with us and are ours alone. Our habits in regard to position in a room, our choice of shape for the articles we like to have round us, and the way we move our limbs, and the way we talk are peculiarly ours. And these idiosyncrasies sometimes change as time goes on, suddenly appearing, at other times disappearing. Each

of us, too, has a string of associated memories, which also are ours alone. Consequently our attention is sometimes arrested by a chance word that has no meaning or significance for anyone else. We are placid when others are defiant, defiant when they are placid; and we must believe that these odd reactions are often the result of an interplay between past and present emotions.

We must also believe that in our forward movements we are often seeking to satisfy an urge that represents a desire unfulfilled in the past. This often leads to acts called criminal. Elder children often assault the younger ones who deprive them of their mother's attention; and some crimes are only such acts as these performed in public instead of in the nursery. The birth of another babe often turns a previous child into a thief, if the mother is an unwise or ignorant woman; the home-atmosphere of our babyhood determines much that we do and say in later life. In Erewhon delinquents were treated as invalids. It has taken us a long time to overtake Butler's penetrating mind. What is a psycho-therapist but a "straightener"?

This means that, so far as individual behaviour is concerned, social, not racial, factors are responsible; and in this connection we pay respect to the plain man's intuition. When the plain man uses the word "race" he really refers to the forces that determine what in him is determined; and it is not physical but cultural differences that he has in mind. He intuitionally recognizes what is undoubtedly true, that the thing determining his behaviour as an individual is the accumulated influence exerted on him by those other individuals into whose field of force he comes during the course of his life. As an entity an individual is not a racial but a social product.

An important conclusion follows: every individual is unique. He has never happened before and can never happen again. He is as he is because he was born at a certain point in space and time, and the experiences that make him what he is can never occur in exactly the same way again. No two individuals can ever be exactly alike; and no social structure can ever be stable if this is forgotten. We have yet to discover what position the individual will hold in the Hopousian structure; but our efforts to create it will be futile if we overlook the unique character of every Hopousian.

We can now revert to our analogy. But, though the structure of chemical substance is the same as that of a human society, its behaviour is different when it emits energy. When an atom emits energy some of the outer sentinel electrons jump down a quantum or a number of quanta; finally they are locked against the nucleus; and what was once a massive event of low density becomes a less massive event of high density. When a human society radiates energy, the opposite occurs. In a lethargic society the individuals are locked together by the action of their super-egos, which have a similar nature. If such a society is energized by the frustration, when young, of a few individuals by other members of the society, particularly those of the same human atom (family), these individuals leave the mass and form a group or groups outside it. If the society is energized again, more individuals leave the mass and join the outer groups. Others leave these groups and form new groups again. And the more energy a society displays the greater the cultural distance between the outermost groups and the original mass, which after a time disintegrates. In every state the cultural condition of the society is determined by the behaviour of the leaders of the outermost groups.

There is never any danger of a rise in the cultural scale causing the groups to fall apart. Just as all the molecules in a chemical substance, whatever their distance from one another, continue to form part of the substance, which remains a complete and unified event; so in every society, whatever the amount of its energy, all the human groups, whatever their cultural differences, are held together by their mutual interests. A society does not disintegrate because the number of its cultural strata increases but because the bonds holding the groups together weaken and then disappear.

There is one kind of chemical substance that emits energy constantly, and with it I compare Hopousian society, which also will display unceasing energy. Just as for that reason Hopousian behaviour is a unique event in the cultural process, so for the same reason a radio-active substance is a unique event in the material process. By virtue of its constant emission of energy a radio-active substance constantly transforms its chemical state and changes its position in the periodic table. Thus uranium becomes brevium, then thorium, then actinium, then radium. From radium comes an emanation, which, after three more changes, becomes lead. In a similar manner

the Hopousians, by virtue of their constant display of energy, will constantly transform their cultural tradition and change their position in the cultural scale. Analogically Hopousian society and uranium are alike in their constant emission of energy and in their consequent transformation of their state; the difference is that whereas the radio-substance descends in the periodic table the Hopousians will ascend in the cultural scale.

As we have seen, the cultural scale, like the periodic table, has an isotopic character. Just as the nuclei of atoms in a molecule may vary in size without affecting the chemical properties of the substance, so in a human group the number of hangers-on may vary between wide limits without affecting the cultural state of the group. The chemical properties of the molecule depend on the number of sentinel electrons in orbit round the nuclei of its atoms; similarly the cultural standards of a human group are controlled by the individuals who lead it. These are in a small minority, and they do not form part of the mass. To be leaders they must be mentally separated from it, and it is a man's act in separating himself from the mass that makes it possible for a cultural change to occur. If, having separated himself, he remains without followers, he wanders forlorn through life in a state of mental loneliness, probably ridiculed and thought mad. He may even be thought dangerous, perhaps so dangerous that he is executed. But if his ideas express or harmonize with the conscious or unconscious desires of other men, he is hailed as their leader and a new group is formed; the cultural change takes place if this group becomes strong enough to dominate the society.

The order of events is important. The society first produces the outstanding unorthodox individual; then the group forms round him. A cultural change cannot take place in any other way than this.

It seems, then, that if the Hopousians are to rise continually in the cultural scale Hopousian society must continually throw up unorthodox individuals round whom new groups will collect. It must also continually produce plenty of individuals anxious to join, though perhaps incapable of leading, such groups. It must also produce enough orthodox individuals to ensure the stability of the society while these things are going on.

My conclusion is that we must construct Hopousian society in such a way as to encourage, or at any rate impose no handicap on, the expression of unorthodox opinions or theories. Orthodoxy

must never be in a position to smother unorthodoxy. Diversity must be encouraged, uniformity disparaged. Fanatics must not be silenced. If their fellow-citizens have no sympathy with them they will not matter any more than a fly matters to the elephant on which it crawls. If the fanatics' ideas harmonize with the conscious or unconscious desires of their fellows, new groups will emerge, and the formation of these groups must not be interfered with. If the groups are weak, they will soon disintegrate; if strong, they will become an important part of the Hopousian structure. If strong enough to dominate the society they will abolish the old tradition and create a new one according to the nature of their ideas. At first regarded as fanatical, these ideas will soon become familiar, and, when a new generation has been born and become adult, the new tradition will be taken as much for granted as was once the old one.

This principle is fundamental, and must apply to the nature of all Hopousian groups, social, political, and economic. If the groups do not possess this character Hopousian society will not display the greatest possible energy and the structure will not fulfil the purpose for which it is being designed.

BOOK II

For the convenience of study the structure of a human society, though really indivisible, may be divided into three parts: political, economic, and social. We will begin by considering what kind of economic groups we shall require.

The difference between the Hopousian system and our own is that we, like all previous energetic societies, have based our institutions on Four Economic Follies; these will not be allowed to prevail in Hopousia, for if they did the economic system would not be able to fulfil the purpose for which it is being designed, viz. to encourage and facilitate the display of the greatest possible amount of energy unceasingly.

The nature of our economic groups is decided by the Four Follies, and the shape of our towns and cities is dictated by them. They are reflected in many of our standards of judgment, for they create the environment into which we are born and in which we pass our whole lives.

BOOK II

CHAPTER V WANTS

VI CURRENCY

VII MONEY

VIII FOUR METHODS OF COMMODITY EXCHANGE

IX THE FOUR FOLLIES

CHAPTER V

Wants

CULTURAL WANTS
ECONOMIC WANTS
UTILITIES AND COMMODITIES

In considering what the Hopousian economic groups will have to be, our sole criterion must be the encouragement and facilitation of a display of the greatest energy. In deciding the economic system we can only rely on that evidence which alone is available to the scientific worker: knowledge of what has happened in the past. When a rationalist tries to create or reform something, he usually begins by submitting that his suggestions are "just" and "reasonable." Scientifically, these words have no meaning; for each person attaches his own meaning to them. What appears just to one man often seems unjust to another; what seems reasonable to one group of men seems unreasonable to another group of men. The only result of this mental process is to produce conflict.

So we must not rely on our personal ideas of what is just and reasonable, for our work would have no value except for those who agreed with our standards of judgment. We must think scientifically and not rationally.

We will begin at the beginning, with the basic fact that all organisms have wants which they desire to satisfy.

CULTURAL WANTS

Every organism has its own inherent nature, so some of its wants are peculiar to itself and differ from those of other organisms. Thus a fish does not wish to graze; an ox does not look for a place to build a nest; a stag, unlike a fox, does not raid a farm-yard. And the matter is simple enough till we come to the human organism, when we perceive an important difference; for the nature of human

wants not only depends on the inherent nature of the organism but also varies according to the cultural state of the people.

So far as we know, the wants of all other organisms can be satisfied by material things; many human wants also need material satisfaction only; but the satisfaction of other human wants is essentially immaterial, and at the outset we must distinguish these from the others.[1]

Wants that demand an immaterial satisfaction may be called social and cultural wants; these do not necessarily play any part in the economic life of the community. Wants that only demand a material satisfaction may be called economic wants, and it is with these that the economic system is primarily concerned.

Social and cultural wants are especially apparent in times of danger and distress, and on such significant occasions as birth, adolescence, marriage, and death.

When men suffer in a way they understand, they usually cope with their own difficulties, and every society, civilized and uncivilized, possesses a store of knowledge about the way, for instance, to treat a common sickness or disease; but when an unusual sickness comes upon them, or they begin to suffer in a way they do not understand, they usually consult a man who, in their opinion, has the power to help them.

In a zoistic society they go to a medicine-man, and perhaps a diviner too. Some manistic people do the same. But other members of a manistic society prefer to consult a medium, who, they think, is possessed by the spirit, and can therefore speak with the authority of a powerful dead man. A deistic society usually contains a zoistic and/or a manistic stratum, so we find that some of its members also behave in this way; but the most developed members usually prefer to consult the priest attached to the service of a god. For deistic people usually regard an unaccountable sickness as a sign that a god is angry with them, and they wish to know why, that they may remedy their omission or expiate their fault, as the case may be; and they go to the priest in order to ascertain what their fault has been.

A rationalistic society usually contains a deistic stratum; so many of its members think that inexplicable misfortunes are due to the displeasure of a god, and we find that the temples of these gods play

[1] By "material" in this context I mean something that can be seen or felt.

a great part in the life of a rationalistic society too. But the members of the rationalistic stratum behave in a different way. Having arrived at the conception of the "natural" they tend to regard every affliction, whether directly explicable or not, as having a "natural" cause. This cause may be puzzling to them, and even to the physicians and surgeons they consult, but this comparative ignorance does not shake their faith in their basic assumption; and in a rationalistic society there soon emerges a special profession of men who do nothing else than attend to medical requirements and treat disease according to their ideas about its cause.

Now, since every energetic society is culturally stratified, we must take it for granted that different Hopousians would have different opinions about the way an unaccountable sickness should be treated; so we must design the structure of the society in such a manner as to cater for the various tastes that would exist. Does not a variety of such tastes exist in our society now? Most of us go to a medical doctor, and, if necessary, into hospital; but many persons prefer to pray, and some like to consult a medium who goes into a trance and is thought to speak with the voice of a dead man. Others talk with a psycho-therapist, who tries to straighten out their minds and to adjust them to the conditions of their lives. Each of these practitioners can produce a long list of certified cures; none publishes his failures; so we cannot say that one way is "better" than another way, or that one set of practitioners is dishonest and another has a monopoly of truth. So far as the Hopousians are concerned, we must conclude, I think, that they will require the services of priests, physicians (under which heading I include psycho-therapists), and surgeons. As knowledge increased, their method of treating sickness would change, but it would still be in the hands of these professions who would give the required advice and services whatever they were.

The services of priests are also likely to be required on such occasions as birth and death. Even in a rationalistic society there are few persons who have such courage in their rationalistic convictions as to dispense with priestly services when a death has occurred. In all men's hearts there is a strong feeling that on such an occasion the proper thing must be done by the proper person, that a right relation may be maintained with the unknown forces manifest in the event. Their idea of what is "proper" largely depends on the

tradition in which they were reared, but it would be rash to think that the Hopousians would not want priests on that occasion. I think that many of them would. In designing the Hopousian structure therefore we must allow for this and make provision for the profession.

In every human society, too, certain men are prominent for their knowledge of ancient custom. In an uncivilized society custom reigns supreme, but in an energetic society it is formulated into law, and as time goes on, if the society retains its energy, the law changes in almost every particular, so that some men have to spend their time doing nothing else than study and propound it. In a zoistic or a manistic society the knowledge of what is customary, and therefore "right," reposes in the memory of the elders; in a deistic society, which is usually also monarchal, the king tends to become the guardian of "right," and he is supported by the priests, whose influence tends to invade this as well as every other realm of life. But in a rationalistic society law tends to become so complicated that few men can plead for themselves; they have to have special men to plead for them, so there emerges a legal profession, the members of which concentrate on the study of law, train future judges, and plead in the courts. In creating Hopousia, therefore, we must also make allowance for a legal profession.

In lethargic societies the men who satisfy these social and cultural wants always play some part in the production of goods, but, by virtue of its greater energy, an energetic society is able to produce a surplus of goods by means of which it can support a number of non-productive-of-goods persons who are thus left free to follow their profession without troubling to produce any goods. And since they play no part in the production of goods I do not include them as part of the economic but of the social structure, and I call them *social professions*. The services they perform might be called social services but the words become hackneyed by their use in connection with the organization of pseudo-charities, and they no longer mean what they meant a few years ago; so I am not disposed to use them. The services performed by the social professions shall be called *cultural services*. The wants they satisfy may be called *cultural wants*.

I distinguish with rigour between the priest and his temple, the physician and his hospital, the lawyer and his text-book, etc., etc. Temples, hospitals, and text-books are material things; the wants

they satisfy are material wants; so their production is not part of the social but of the economic structure of a society.

Energetic societies also need, and are able to support, other purely professional men, such as architects and accountants, so at first sight these professions also seem to be part of the social structure. But the services they perform are different from the services performed by the members of the social professions. Under the heading of "services" some economists also include not only what I call cultural services but also certain distributive activities, such as the transport of goods from place to place and the advice given by experts, such as consulting engineers. But these men do not perform services in the sense that the diagnosis of a disease, the removal of an appendix, the chanting of a prayer, or a statement of a legal position are services. And I draw a rigid distinction between what I call a cultural service, which is complete in itself, and an economic service, which would not be performed if the production of goods was not intended or contemplated. The services of architects, surveyors, accountants, and engineers are of the latter character; and I regard these and similar professions as part of the economic structure of the society.

Another important part of a society's existence is its contact with other societies. In a sluggish uncivilized society strangers are feared greatly, not because there is anything objectively fearsome about them but because they are strange unusual beings who behave and speak in strange unusual ways; and this attitude towards strangers is also apparent among the less cultured members of an energetic society, who will not have anything to do with a "foreigner" if they can help it. Zoistic and manistic societies usually conduct important ceremonies when strangers are being received or visited; deistic societies too are noticeable for the diffidence, care, and pomp with which they treat a foreign embassy. Even in a rationalistic society strangers are seldom treated in the same way as natives, and in Hopousia the duty of maintaining a sympathetic relation with other societies will, I think, be allotted to special men. Like priests, physicians, surgeons, and lawyers, these diplomats will not produce material goods, so I regard them too as part of the social structure of the society, and call diplomacy a social profession. Diplomats would have to be specially trained not only in the language, customs, and history of their own society but also in

that of the societies with which it would be their duty to maintain sympathetic and peaceful relations. In designing the Hopousian structure we must make allowances for this.

There will be a sixth social profession in Hopousia.

Every society known to us has always found it necessary to instruct the young in its customs, history, and traditions. In the first instance this instruction is usually given by the mothers of the children, but thereafter the method in which the children are trained varies, like everything else, according to the cultural state of the society. In zoistic and manistic societies the matter is usually in the hands of the elders, who conduct, on appropriate occasions, most complicated ceremonies which are designed to explain and emphasize the virtues that the society admires. In deistic societies education, like all other things, tends to become part of the priestly duties, as it was among the Aztecs; but even in deistic societies, a Mohammedan one, for instance, you can see the elders instructing the young.

In a rationalistic society children not only have to become acquainted with the history and traditions of their society but also to learn the fundaments of the knowledge that the society, by its inquiries into the "natural," has gained; and to a rationalistic society education, like everything else, begins to have a new character. Moreover, since the essence of the rationalists' creed is that they have rebelled against all ideas based on authority, the promulgation of common standards of conduct and judgment tends to disappear from the curriculum and education tends to become nothing but learning. This, however, will not be the case in Hopousia. A rationalist always emphasizes the way in which he differs from his fellows; his creed is essentially an individualistic one, so in stating his attitude towards education he expresses a particular regard for the individual character of the child. This, too, will have to be done in Hopousia, but the emphasis on the individual character of each child will not be permitted to obscure the fact that the child is a member of the society, and the Hopousian system of education will, I think, have to include instruction in the purpose for which the society exists and in the qualities necessary for the fulfilment of that purpose. To this end there will exist a group of specially trained men and women, organized in what may be called a teaching profession.

On reading some modern books, you would think that education was a modern discovery. That is nonsense. True, it is a modern institution in the sense that a few generations ago some of our children were not educated at all; the uncivilized people to whom we sent missions of enlightenment would have shamed us for our conduct had they known about it. However, the struggle we have had to get all our children educated must not be allowed to affect our judgments of human affairs in general. All uncivilized societies take great care to train their children in the way they think best; the difference between them and us lies in the meaning attached to the word "best." There is also another and almost equally important difference. In an uncivilized society education has a definite function. The people know exactly what it is for; everyone is agreed about the kind of citizen the society wants to produce. Such agreement cannot exist in a rationalistic society; so, if you ask a thousand modern British parents to say for what purpose they educate their children in a particular way, you will get nearly as many different replies. Moreover, if you examine the curricula of our primary and secondary schools you will find that they are based on little but snobbery. Because certain things were taught in the public schools in the nineteenth century, *therefore*, we think, they must be taught in the secondary schools in the twentieth century. This old situation has arisen because education used to be a perquisite of the rich, and when it was extended to the poor the curricula were handed on in the form they happened to be in. No one examined them to see what parts of them were desirable and what undesirable, and why. That, indeed, would have been an impossible feat, for in a rationalistic society everyone judges by a different standard, so there would never have been any agreement on the meaning of the word "desirable." Thus the old tradition of Dr. Arnold is still being diffused among the sons of our wage-earners. I am not concerned to deride this tradition. My point is that such irrational methods of education cannot be permitted in Hopousia. The Hopousians will know, as uncivilized men know, what sort of person they want to produce; the curricula will be designed accordingly.

Now though these six social professions—priests, physicians, surgeons, lawyers, diplomats, and teachers—are not part of the economic structure of Hopousia, their existence must be remembered when we begin to design that structure; for we shall have

to provide for their lives, training, and subsistence. But having seen why they must exist we have done all that is necessary at present.

ECONOMIC WANTS

The nature of economic wants, like that of cultural wants, depends not only on the inherent nature of the human organism but also on the cultural state of the society and on the experience of the organism during the course of its life. Thus some societies build temples; others never think of building temples, for which they have no desire at all; others again regard their fathers' desire for temples as foolish and ignorant. Some men like to eat flesh; others prefer a diet of blood, butter, and milk; others again have different personal fancies. Some men want printed books, tarred roads, and stone houses; others have never heard of these things, and, even if they have heard of them, dislike them. They prefer oral legends to printed manuscripts, tracks to roads and railways, and mud huts to concrete palaces.

These things are commonplace, but it is essential to remember them. Moreover, we must always state them in general terms, or there will be a risk of petrifying what is fluid. And we must take care not to judge the nature of any want and to call it a "good" want or a "bad" want. In the nineteenth century economists were not only guilty of these moral judgments (which they were entitled to express as private citizens but not as scientists), but also confused a simple issue by an excess of zeal. Thus one industrious student divided human wants into "absolute and relative, higher and lower," (here is the danger of a moral judgment), "urgent and capable of postponement, direct and indirect, positive and negative, general and particular, constant and interrupted, permanent and temporary, ordinary and extraordinary, present and future, individual and collective, private and public."[1] An impressive list indeed; but, having read it, are we wiser than we were before? I doubt it. At any rate what we need to note here is that economic wants are relative, first, to the nature of the human organism, and secondly, to the cultural standards and experiences of each person. In the course of

[1] The list is Hermann's, and is quoted by A. Marshall, *Principles of Economics*, p. 91, n. 1.

the cultural process different societies have occupied different positions in the cultural scale. In the course of its cultural career a single society has often changed its position in that scale. Within the society some persons have been more culturally developed than others; and their descendants have occupied still different positions in the scale. And whenever there has been a change in the position, the people's standards, and therefore their wants, have changed. If we try to be more exact than this we shall conceal the plastic nature of the process. Economic wants exist; they differ; they change. That is all that we need recognize. But we must remember that in Hopousia the cultural standard of the most developed stratum will always change in a certain direction, and the economic structure must allow for this. If it prevents or handicaps it, the structure will not be serving the purpose for which it is being designed.

You will notice that I do not analyse the source of economic wants; I simply note that they exist and vary. As a matter of fact they are, or can be, created in many ways, even by supply and advertisement. Or is the power of an advertisement limited to the stimulation of a desire that already exists somewhere in the mind? I sometimes think so. However, I do not wish to commit myself to any opinion on the matter, which is outside my present scope. But I must ask you not to assume that the Hopousians would exchange their goods by means of a price-mechanism. In a society like ours, inured to a price-mechanism, wants that were not obvious on Monday may become obvious on Tuesday, having been created, or at any rate brought to the surface of consciousness by a change of price. This price-attraction has a dual character: a highly-priced article may tempt us because we think that a higher price implies a higher quality; contrarily, we may be inclined to want a thing because its price seems so low that it must be worth what is being asked for it. Wise men may realize the folly of buying a thing because it seems cheap, but many dunder-heads do so every day, and it is possible to say that in our society wants are often created by price. Or maybe price distorts value? But I do not propose to analyse the origin of value any more than the origin of want. I simply note that a motive called value exists.

Value is a subject on which much has been written, and there exist many theories of value, including Marx's theory of surplus value, which is not really value at all but simply profit. These various

theories of value, combined with some inexactitude in the use of words, have created in the plain man's mind an impression that "value" is a most mysterious thing. But in the sense in which I use the word, value is not a mysterious thing at all; it is merely the correlative of want. The attitude of an organism to a thing it wants is different from its attitude to a thing it does not want; and I express this difference by saying that on a thing it wants an organism places value. If a thing is wanted it has value; if it is not wanted by anyone anywhere it has no value. Just as wants are relative to the inherent nature of the organism, so also is value; and, just as wants are also relative to the cultural standards of each person, so also is value. Human wants exist, differ, and change; so also value exists and differs and changes for the same reason and in the same manner. And this is naturally so for the one is a reflection of the other. Without want there can be no economic value.

But there are two kinds of value, *use-value* and *exchange-value*; and this dual nature of value divides material goods into *utilities* and *commodities*, between which there is an important and fundamental difference.

UTILITIES AND COMMODITIES

A *utility* is any object that satisfies a human want. It may be organic or inorganic, natural or artificial; it does not matter what it is. It may be wanted by a single person or by a group of persons; it does not matter who wants it. If it satisfies a human want, it is a utility. A spear, potato, bushel of corn, pint of milk, length of woven cloth, typewriter, coffee-grinder, house, cathedral, wireless set, chemical laboratory, and any other things that happen to satisfy a human want, are utilities.

No object is a utility in itself; it becomes a utility in a certain place at a certain time because someone wants it. An object wanted in one place may not be wanted in other places; in that case it is a utility in one place only. Or it may be wanted in one century and not wanted in the succeeding century; in that case what was once a utility has ceased to have that character. To be a utility, an object must be wanted by someone, in some place, and at the present time.

A utility need not satisfy a want directly; it may merely be the

means of producing another utility. Thus no man wants to have a new loom for its own sake: he wants it because by its means he can transform spun wool into woven cloth. Similarly, a man does not want a new potter's wheel for its own sake but because it enables him to throw pots. All the same, though not wanted for their own sakes, looms and potters' wheels are utilities if anyone wants them even indirectly; and this is true of any other machine of any kind. If a man, or a group of men, wants something, it is a utility, and, because someone wants it, it has use-value. Use-value is the quality attached to anything that is wanted now. If no man wants a thing it has no use-value; and a utility may therefore be defined as an object that has use-value.

Now if a man, assisted by his wife (or wives) and children, can supply all his own economic wants—grow, kill, and cook all his own food, ferment his own liquor, make his own clothes, build his own house, and till his own land—there may be no need for him to depend on other men for the supply of his utilities. And if he can possess and serve all his own sacred places, sing his own prayers, utter his own incantations, train his own children, tend his own sick, and dispose of his own dead, he has no need to ask any other man to perform any cultural services for him. But I doubt if such a case is known. The human organism tends to be gregarious; within the group no man is sufficient to himself. True, in an extremely lethargic society, a family may produce all its own utilities and only rely on outside help for the performance of its cultural services; but even this, I think, is rare. In most societies, certainly in all energetic societies, a man does not produce all the things that he wants; he relies on other men to produce some of them for him; while he produces, or helps to produce, the things that they want. Utilities are then exchanged—corn for hides, hides for hoes, hoes for flesh, flesh for roots, roots for corn, and so on. Under these circumstances a utility becomes a *commodity*. A commodity is a utility produced by one man, and wanted and consumed by another man who gives in exchange something that he has produced. Or the contracting parties may be two groups of men instead of solitary individuals.

When men exchange their utilities in this manner they place on them a value that is different from use-value, for they have to decide how much utility A shall be given in exchange for utility B. No

exchange can take place till the respective producers have agreed on this vital point. This second value is *exchange-value*. Exchange-value is the value attached to a utility when it is exchanged for another utility, and as soon as a utility has exchange-value it becomes a commodity. Indeed, a commodity may be defined as a utility that has an exchange-value. All utilities are not commodities but all commodities are utilities. To be a commodity, a utility must be exchanged or exchangeable for another utility or utilities.

Exchange-value, in the abstract sense of the term, is merely a quality that attaches to an exchangeable utility, but we can also speak of the exchange-value of a commodity. Used in this sense, the word denotes goods for which the commodity can be exchanged. It follows that when we want to express the exchange-value of a commodity we always have to speak in terms of something else.

If I ever use the word "value" without qualification, it is to exchange-value that I refer, but for the sake of clarity I will use the full term unless its use would overburden a sentence and so obscure the sense of what I have to say.

The exchange-value of a commodity is not an absolute but a relative thing; it varies from place to place and from time to time. Moreover, if no one will give anything in exchange for an object that has hitherto been a recognized commodity, the object ceases to be a commodity, and becomes a mere utility. If its maker does not want it, it ceases to be even that. Use-value and exchange-value continually come into existence, change, and disappear. The economic process is only part of the cultural process. Nothing is permanent in it; everything is in a state of flux.

Before commodities can be exchanged they must, of course, be produced. So, in designing an economic structure, it might seem that we ought to discuss the question of commodity-production first. But I am going to begin by discussing the question of commodity-exchange.

There is nothing arbitrary about this; it is fair to assume that the Hopousians will produce some commodities. No man, looking back along the stream of time, can point to a single human society that has never produced any utilities; nor can he find a single example of an energetic society in which there has been no exchange of utilities. In other words, in every energetic society we find an amount of commodity-production and commodity-exchange. I

conclude, therefore, that, just as there are or will be leaves on living trees, even so the Hopousians will produce and exchange a number of commodities. We may even say that, being *ex definitione* an extremely energetic people, they will produce large numbers of commodities in great variety; for that is how all energetic societies have behaved in the past. Our first task is to decide what kind of organization the Hopousians will need in order that they may exchange their commodities in the most suitable manner; that is, the most suitable manner for them. As soon as the nature of this organization is clear in our minds, the method of organizing the production of commodities will be obvious enough.

NOTE

Some economists are not always careful in their definitions. The difference between what I have called a *utility*, which has *use-value*, and a *commodity*, which has *exchange-value* also, is fundamental; yet you can read many economic text-books without coming across a clear description of it. Indeed Friedrich Engels is one of the few men to define what he means by a commodity.

In a note added to what Karl Marx says in *Capital* (trans. E. and C. Paul, 1, 10) Engels says: "To become a commodity a product must pass by way of exchange into the hands of the other person for whom it has a use-value." That is both clear and satisfactory. But Engels seems to have overlooked the fact that Marx himself (op. cit., i, 3) has already defined a commodity as "an external object, a thing whose qualities enable it, in one way or another, to satisfy human wants." The trouble is that in a later passage (op. cit., i, 62) Marx says that "articles are not commodities before the act of barter. Only then do they become commodities." Perhaps Engels was trying to remove the inconsistency.

The confusions in Marx's mind are also apparent in the way he speaks of use-value. In *Capital* the word denotes both a wanted object and the quality possessed by the object. Thus "the utility of a thing makes it a use-value" (op. cit., i, 4); again, "the form of direct barter is X use-value A equals Y use-value B" (op. cit., i, 62). In such passages "use-value" is employed to denote the external object elsewhere called a commodity. To that extent, so far as Marx is concerned, a use-value and a commodity seem to be the same thing. Confusion arises because (*a*) in later passages he uses the word "commodity" in the more limited sense quoted above, (*b*) he also employs the word "use-value" to denote the quality possessed by a wanted object; e.g. (op. cit., i, 4): "Use-value is only realized in use or consumption."

In his Introduction to the translation of *Capital*, G. D. H. Cole says: "Karl Marx's *Capital* is not an easy book to read. It is difficult because it deals with a highly difficult and abstract subject-matter. . . . Marx's mind was at once highly abstract and highly critical."

I regard such comments as unfortunate. Marx performed a great service when he described the way in which our own economic

system works, and there is nothing difficult about the subject-matter of his book. Any difficulty in the reading of it arises from the author's loose phraseology and from his great verbosity. Marx was a profound but not always an exact thinker. Moreover, what he had to say could have been said in a quarter of the space. Except for these things, *Capital* is an easy book. Such comments as Cole makes are likely to prevent people from studying it, which would be a pity; though certainly the reading of clumsy stuff can never be an unmitigated pleasure.

A. Marshall, *Principles of Economics*, p. 92, uses the word "utility" as the correlative of want. With him the word denotes the quality a wanted object possesses. He does not use any special word to denote an object that possesses utility. Moreover, "Commodity" has no place in the Index to the *Principles*. Nor does Marshall define it, though he often uses it.

F. W. Taussig, *Principles of Economics*, i, 116, also employs the word "utility" to denote the quality a wanted object possesses; "It has utility—it fills a want." He does not use any particular word for an object that fills a want. He continually uses the word "commodity," but does not define it, and it has no place in the Index of his two-volume book. I received the impression that he derived many of his ideas from Marshall.

C. Gide, *Principles of Political Economy*, trans. E. F. Row, p. 38, also employs "utility" for the quality a wanted object possesses. He also fails to define a commodity, and the word has no place in the Index of his book. This is surprising, for Gide's work is in many other ways a great delight.

In deciding the sense in which I should use the words I have defined, I have greatly profited by a study of *Capital*. The words are vital to any discussion of economics, and it seems a pity that Marx's inconsistency in his use of them should often have concealed the superiority of his intellect over that of some orthodox text-book writers.

CHAPTER VI

Currency

THE DIFFERENCE BETWEEN CURRENCY AND MONEY
COMMODITY-CURRENCY
METAL CURRENCY
DISADVANTAGES OF A METAL-CURRENCY
MENTAL HABITS CREATED BY THE USE OF METAL-CURRENCY
CHEQUE-CURRENCY
TOKEN-CURRENCY
THE ISSUE AND ADMINISTRATION OF CHEQUE-CURRENCY

THE DIFFERENCE BETWEEN CURRENCY AND MONEY

In any orthodox text-book on economics money is described as having three functions: that of acting as a measure of value, as a standard of value, and as a medium of exchange.

This does not seem to me to be altogether true, for though I do not doubt that money is a measure and a standard of value, I do not think it is the medium of exchange.

In the orthodox text-book the word "currency" is used as if it meant the same thing as money. Actually the things called currency and money behave in different ways.

This is apparent as soon as we examine a cheque (a piece of paper on which certain figures and names are written). The written cheque is an order to transfer the figures from the ledger-page devoted to the person signing the cheque to the ledger-page devoted to the person in whose favour the cheque is drawn. When it has carried the figures from one page to another, the cheque has done all the work for which it was designed; so it can be destroyed. But the figures remain and cannot be destroyed; they can only be

amalgamated with other similar figures or transferred to a third page. I hold that the cheque is currency and that the figures are money.

The orthodox confusion between money and currency goes deep. Thus, most economists are accustomed to speak at great length about money-issue and also about currency-issue. Confusing money and currency, they always speak as if these two questions were the same; but since currency is a different thing from money, its issue is an entirely distinct affair never to be confused with money-issue.

Many publicists, and some economists, confuse not only money and currency but also the different forms of currency. There are at least three different forms of currency: commodity-currency, like gold or any other metal; token-currency, like the half-crowns used in Great Britain now; and cheque-currency, by means of which most British transactions are now closed. These three things, being essentially different, naturally behave in different ways, yet you can read almost any economic text-book without discovering the fact.

Nowadays many persons, besides trained economists, wish to write about money and currency; but in all their writings you will find the confusions I have mentioned. Thus, when writing about money, a publicist will speak in one sentence of token-currency, in the next sentence of metal-currency, and in a third sentence of cheque-currency; but in each case he will use the word "money," and an inattentive reader is apt to conclude that the same thing is being referred to; whereas the writer is really referring to three different things, none of which is money.

Again, in trying to explain the behaviour of money, a publicist will sometimes formulate, or refer to, a principle based on a study of the way in which a metal-currency behaves; he will then apply this principle to the behaviour of cheque-currency. Of course, the principle does not hold good, and there is not the slightest reason why it should be expected to do so. But the publicist feels that he has discovered in the economic world a suggestion of anarchy which needs explanation; and, to account for it, he begins to hypothesize the influence of forces that have never yet been proved to exist. If he is a reformer he often goes further, and suggests some method of dealing with the situation that these hypothetical forces are alleged to have created, till the plain man's head begins to ache and he feels he lives in an incomprehensible world. But all that has happened to make our heads ache is that the publicist has confused

two different forms of the same stuff and then blamed Nature for his fault.

It is this confusion of thought, I submit, which is responsible, at least in part, for the growing impression that money is a mysterious subject which can only be discussed in esoteric circles. There is really no more need to be recondite in writing about money than in teaching the alphabet.

Noted economists are as misleading as the journalists. You can read the writings of, for instance, Karl Marx and Alfred Marshall, without coming across a single sentence containing even a hint that there is a difference between currency and money and between the different forms of currency. Marx, indeed, seems to have regarded the use of a metal-currency as inevitable; and he always speaks of it as if it were money. "Circulation sweats money": this is one of his favourite maxims, submitted as an undeniable and unalterable truth.[1] But it is only true of a commodity-currency and a token-currency; it is not true either of money or of cheque-currency. When a commodity like gold is used as currency the same piece of metal is used over and over again, and has, so to speak, to work hard, and is thus sweated. Constant rapid circulation also sweats tokens. But when a cheque-currency is used the process is quite different. The money conveyed by the cheque is transferred from one ledger-page to another, and as soon as this has been done the cheque is cancelled and never used again. No cheque is ever sweated, for it never does more than one piece of work.

Students of *Das Kapital* are misled if they do not recognize this serious shortcoming in Marx's work. His analysis of the manner in which our own economic system works, though verbose, is excellently done; but, since he failed to perceive the difference, first, between money and currency, and, secondly, between the different forms of currency, his creative suggestions have little value for energetic societies. No wonder the Communist Party in Russia has had to modify its original plans. The interesting point is that this

[1] E.I. *Das Kapital*, trans. E. and C. Paul, I, 91.

The writings of Marx must always be read in the light of two important facts: (1) He wrote before cheques were commonly used as currency; (2) His (with Engels) *Manifest der Kommunisten* (1847) was published twenty years before *Das Kapital* (1867). The contents of the latter owe much to the ideas underlying the emotional appeal of the former.

modification has involved a return to ideas for which Marx himself had nothing but contempt.

At the beginning of his *Principles of Economics*, Marshall discusses what he calls some "fundamental notions."[1] Many young men, brought up on the *Principles*, now accept these notions as inviolable principles from which there is no possibility of escape. But the notions are really only the assumptions on which our economic system was based at the time when Marshall wrote. They are not true; they merely *appear* to be true to those who confuse, first, money and currency, and, secondly, the different forms of currency. To any other man they are demonstrably false, and we cannot be surprised at the instability of an economic system based on them.

Marshall's trouble was that he worked within a narrow bracket and generalized from too little evidence. This does not mean that his conclusions were invalid. On the contrary, they were valid, just as Boyle's Law about gases was valid. But Boyle's law was valid within such narrow limits that it was not helpful. He discovered that, if a certain quantity of gas is subjected to pressure from without, the volume of the gas is halved if the pressure is doubled and doubled if the pressure is halved. But this only holds good if the temperature of the gas is constant, a condition that seldom occurs in a state of nature and can hardly ever be created. So Boyle's Law had to be superseded by Guy-Lussac's Law, which holds good for changing temperatures. In a similar manner Marshall's statements hold good for some metal-using peoples, but not for others, and, though true so far as they go, they have not much significance to-day when we do not use a commodity-currency any more.[2]

But we must not be too hard on Marshall, who, if he were alive to-day, would surely condemn his disciples for ascribing to his "fundamental notions" a significance they do not possess. He himself realized how restricted was the scope of his conclusions. Like Marx, he was merely examining the conditions that prevailed when

[1] A. Marshall, *Principles of Economics*, p. 62.

[2] Cp. J. M. Keynes, *The General Theory of Employment, Interest and Money* (in which title the emphasis is on *General*), p. 3: "The postulates of the classical theory are applicable to a special case only and not to the general case. . . . Moreover, the characteristics of the special case observed by the classical theory happen not to be those of the economic society in which we actually live, with the result that its teaching is misleading and disastrous if we attempt to apply it to the facts of experience." Keynes includes Marshall among the "classical" economists.

he wrote. The chief difference between the two men is that, whereas Marx passed a severe judgment on what he observed, the gentle Marshall was content to relate. Marx looked, hated, and rebelled; Marshall looked, studied quietly, and described. Both taught us much; but neither of them tells us what the figures on our cheques represent.

If asked, Marshall would probably have said that the figures represented an amount of gold which the cheque transferred from one man to another, or from one group of men to another. And an orthodox writer like Mr. Hartley Withers would probably agree; for he has said that "the right to draw a cheque carries with it the immediate and invariable right to demand gold."[1] When the cheque was first used, this was true; but it is not true now and has not been true for many years. It may be said to be true when the cheque is not currency at all but merely an order to transfer to another person a certain quantity of commodity-currency.

So far as currency is concerned, we ourselves now live in a kind of economic half-way house. For the most part we use a cheque-currency, but, when we issue currency, we act either on no principle at all or in accordance with the principles formulated for the use of commodity-currency (gold or some other metal). We completely disregard the fact that most of the currency issued by our central banks is token-currency. A similar confusion of thought is apparent in the habits of our deposit-bankers, who administer and issue a cheque-currency but behave, at least so far as their speeches and balance-sheets are concerned, as if they were administering a commodity-currency and did not issue any currency at all.

The reason is that our economic institutions have developed haphazardly; we have preserved without reflection many habits inherited from our metal-using forefathers and have made little or no effort to adjust ourselves to the revolution caused by the introduction of cheque-currency. Indeed, many persons have not yet realized that the introduction of cheque-currency *was* an economic revolution.

What do the figures on our cheques represent? Their character varies according to the geographical area in which the writer of the cheque lives, and in Great Britain consists of pounds, shillings, and pence. What is a pound?

[1] Hartley Withers, *The Meaning of Money*, p. 93.

In 1844 Sir Robert Peel said: "According to the ancient monetary policy of this country, that which is implied by the word 'pound' is a certain definite quantity of gold, with a mark upon it to determine its weight and fineness, and the engagement to pay a pound means nothing, and can mean nothing, else than a promise to pay the holder, when he demands it, the definite quantity of gold."[1]

At that time the people of this country used a commodity-currency, and Sir Robert was correct in saying that a pound then meant nothing else than a certain quantity of the metal used as currency. But when he implied that a pound could mean nothing else than a certain quantity of gold, the limitations of his outlook are obvious, for a pound does not mean that now. Then what does it mean? What is money? These questions I try to answer in the following chapters.

When men exchange commodities, they give what they do not want in exchange for what they want; or what they want less in exchange for what they want more. The only conditions that must be fulfilled are, first, the existence of unsatisfied wants, and, secondly, agreement in regard to the value of the commodities that are being exchanged. This exchange-value may be specially arranged for the occasion or commonly recognized among all members of the society; that does not matter. The point is that until men have expressed their readiness to give something in exchange for something else, and have come to some agreement in regard to the exchange-value of the articles, no exchange can possibly take place. These two conditions being fulfilled, any commodity can be exchanged for any other commodity. Thus a producer of corn can procure, in exchange for his corn, potatoes, flour, bread, soap, meat, wool, cloth, or any other thing he desires. All he has to do is to find the men who, having produced those things, are willing to exchange them for corn on the agreed terms. There is no limit either to the number or to the magnitude of the transactions. Provided that unsatisfied wants exist, and men are ready to give, in exchange for what they wish to receive, an agreed quantity of what other men need, any commodity can be exchanged in any quantity for any other commodity. X commodity A is simply exchanged for Y commodity B.

In practice, however, the direct exchange of commodities has

[1] F. Schuster, *The Bank of England and the State*, p. 19

usually been found inconvenient, and it has been the custom, even among less energetic societies, to select one commodity in terms of which the exchange-value of all other commodities could be expressed and for which any other commodity could be exchanged at any time. This commodity has acted as the medium by means of which commodities have been exchanged, and is called *currency*; for it has circulated, and so has been current, among all productive members of the society.

COMMODITY-CURRENCY

When men decide to have a special medium of exchange the way in which they exchange their commodities naturally alters a little, for in return for what they have produced they do not receive the commodity they desire to consume but a supply of the commodity selected to act as currency. Some of them, of course, may want this commodity for its own sake, but, whether they want it for its own sake or not, they are always willing to accept it; for they know that their possession of it will enable them to secure in exchange the commodities they do want. In other words, even if they do not want the commodity for its own sake, they are always ready to accept it for the sake of its recognized purchasing power.

In the past the commodity chosen to be the medium of exchange has always been the one judged to be the most convenient. Different societies have naturally chosen different commodities to act as currency, and the selected object has usually been one that has either been common in the neighbourhood or regarded with special reverence. Thus cowrie shells are valued by many men, and in New Guinea are still used as currency. Skins have been another favourite medium; leather, too, has often been used. Live cattle, goats, and sheep have also been popular, and are still used in the Sudan and among the Bantu-speaking peoples of Africa. Cattle and sheep also served as currency in early Rome, and throughout the area now called Italy, their mutual value being ten to one. A relic of these archaic habits can probably be seen in the word *pecunia*, which seems to be derived from *pecus*, cattle. If we may judge from a passage in the *Iliad* (vi, 235–6) the Achaeans also used cattle as currency; for we are told that when golden armour was exchanged for bronze

armour "the value of five score oxen" was exchanged "for the value of nine."

Cattle, shells, skins, goats, and sheep are not the only objects that have been selected to act as currency; natural produce of all kinds has been used; and in remote parts of Norway, even to-day, corn and tea are employed. I myself have been in countries where men use bars of salt and chickens. I found it very tiresome, for the salt used to disappear and the chickens used to die, but the natives accepted their inconvenient institutions without complaint for they had neither the energy nor the courage to change their ways. If we examine the historical careers of energetic societies we find that they have often abandoned one form of currency in favour of another. This is to be expected. Any form of currency is only adopted for the sake of human convenience, and we cannot be surprised if energetic people have decided to discard a currency like cattle, bars of salt, or chickens in favour of a more convenient one.

The trouble with cattle, bars of salt, and chickens is that they wear out. Moreover, cattle and chickens cannot conveniently be divided, so they are almost useless when men want to conduct a multitude of small transactions. Under such circumstances some form of metal is obviously to be preferred. Metals last longer, can be divided into small parts without destruction of their value, and are easily passed from one man to another. The advantages are plain, and in the past most energetic societies have eventually adopted some form of metal as currency.

METAL-CURRENCY

Iron, copper, silver, and gold have been the favourites. Iron, and objects made of iron, like spikes and nails, were widely used throughout the early Hellenic world; and in Sparta the use of iron survived long after other Hellenic cities had found it more convenient to adopt other metals. This preservation by Sparta of a form of currency which the Athenians, for instance, soon discarded in favour of a more convenient one, is interesting. The Spartans never ascended in the cultural scale to the height reached by the Athenians; and their conservatism in the matter of iron currency supports the idea that, when a society has enough energy to perceive what

could be a more useful medium of exchange, and the courage to make the alteration, it soon adopts the one most suited to its purpose.

Hellenic economic history is not well-known; but after using iron the Athenians seem to have adopted silver as their medium. Later they also used gold, but gold did not oust silver; it was an additional medium used for commercial purposes only. Its introduction may have been due to trade with Egypt. Gold seems to have been a favourite medium in Egypt and to have been regarded there as possessing special sacramental virtue.

After using cattle and sheep the Romans seem to have first adopted copper; but in 269 B.C. silver was introduced, possibly owing to the influence of trade with the Hellenistic world, and thereafter silver remained the recognized Roman standard, though at a later date gold was used for many commercial transactions.

When a metal currency is first introduced into a society it passes by weight. There is no exception to this rule, for which the reason is obvious. The metal is only a commodity, and, before any commodity can be exchanged for any other commodity, agreement must be reached on the question how much commodity A must be given in exchange for commodity B. So the weight of a piece of metal that is received in exchange for another commodity is a vital matter. But it is clearly inconvenient to have to weigh each separate piece of metal, though some societies have sometimes done so; it is more convenient to cut the metal into small pieces and to place on each piece a mark to certify its weight. But pieces of metal also vary in quality; so when a metal currency is minted into coins a hall-mark is invariably placed on each piece as a certificate of fineness. If we study the past we find that this has been done by all the most energetic societies. Experience has shown, too, that the most convenient shape for a piece of metal is round. So, among people who have used a metal-currency, round coins, bearing a stamp to certify their weight and fineness, have been the rule.

The Anglo-Saxons appear to have used, or at any rate to have been acquainted with, a metal-currency before they migrated to England, but for some time after their arrival they used oxen and male slaves as currency. Indeed, in some parts of the country commodities were being directly exchanged even after the Norman Conquest, six hundred years later. At that time, too, most lords and priests still collected their dues in kind.

Offa of Mercia seems to have been the first man to issue coined pennies. He imitated an issue made by Pippin, the father of Charlemagne, and all the later Anglo-Saxon standards appear to have been similar to, and may have been derived from, those of Charlemagne, who tried to introduce a common standard through his empire and for this purpose revived some of the old Roman ideas. In his dealing with the Saxons he seems to have regarded the *solidus* of 12 pence as the equivalent of an ox, a pound of silver as the equivalent of a male slave. In the greater part of England 240 pence were supposed to weigh a pound, but other standards existed in some districts, presumably because the exchange-value of an ox was differently computed there. Thus in some parts of Wessex an ox was estimated to be equivalent to a silver *mancus* of 30 pence; in Wales, where the cow was the unit, a cow was reckoned as the equivalent of an ounce of 20 pence. In parts of East Anglia an ounce was only reckoned to have 16 pence, while in the greater part of the country the shilling, not the ounce, was the standard, usually having 12 pence but sometimes, as in parts of Wessex, only 5 pence.

We must remember that till the eleventh century the country was not effectually united under one ruler and that parts of it were isolated and sometimes under alien domination. Thus we cannot be surprised at the difference in the currency systems. It is quite in accordance with expectations that before the Conquest a pound of silver should have been divisible into either 12 ounces of 20 pence, or 20 shillings of 12 pence, or 48 shillings of 5 pence, or 16 ounces of 16 pence.[1] Since in each system, a head of cattle seems to have been the original unit, the differences were apparently due to the fact that in different places the same animal had a different exchange-value.

We cannot be surprised, too, if under such circumstances the coinage was poor. Athelstan tried to regulate it, but even he could not prevent each little town having its own mint. Some towns had several mints, and when Canute was king, Ashley says, mints were more numerous than ever before. By Canute's time, too, the heriot, originally a gift of horse and armour, was paid in coin. Later Henry II took scutage in coin from his kinghts instead of military service. Later still Edward I consented to receive payments in coin from merchants in the place of gifts, fines, and seizures. By the time he was king, too, it had become the custom for lords of the manor

[1] W. Cunningham, *The Growth of English Industry and Commerce*, p. 123.

to receive coins instead of services from their tenants. Priests and canons also took cash in lieu of kind.[1]

All these changes naturally involved the issue of more currency, and in 1220 round halfpennies and farthings were issued for the first time. The earlier ones had been square or oblong. The issue of these small coins was necessary because the commodities that were exchanged were still of low value. Indeed, when in 1257 Henry III issued some gold pennies the citizens of London protested, for the value of the coins was so high as to render them inconvenient, if not useless. Almost a century elapsed before another attempt was made to introduce gold currency. In 1343 Edward I issued gold nobles. But he would never have succeeded in getting them accepted if the growth of trade between England and Flanders had not made it desirable to establish a uniform currency in both countries. Even then, several hundred years went by before gold ousted silver as the recognized standard.

In 1663 gold "broad" pieces, popularly known as "guineas" because the gold came from West African territory controlled by the Guinea Company, were introduced. But their introduction caused some currency confusion; for their exchange-value was fixed too low in terms of the silver shillings. Moreover, the silver coinage was much clipped and worn and therefore worth less than its reputed value. The result was that the guineas, which were only supposed to be worth 20 shillings each, soon rose in value till they touched 30 shillings each. Furthermore, in accordance with Gresham's Law that when two coinages circulate freely the weaker drives out the stronger, the guineas tended to disappear, being either melted down or sold at their bullion value. In 1696, on the advice of John Locke and Isaac Newton, the whole currency was reorganized, but the exchange-value of the guinea was this time fixed too high, 21 shillings and 6 pence, and it was not till 1717, when Newton was Master of the Mint, that the matter was finally settled. The guinea then became worth 21 shillings.[2]

[1] W. J. Ashley, *An Introduction to English Economic History and Theory*, vol. i, pt. i, pp. 43–9.

[2] Such dates as these have been well summarized by J. A. Todd in his *The Mechanism of Exchange*. The little book is useful, but the orthodox character of Prof. Todd's mind is likely to mislead any student whose knowledge of economics is small. At all events it is no book on which to bring up a young person. Economics cannot be learnt from such volumes any more than chemistry can be learnt from the writings of the old alchemists.

Gold then remained the standard, alongside silver, till 1816, when the currency was again reorganized after the confusion created by the Napoleonic wars. It was then finally decided that gold was preferable to silver. The sovereign, worth 20 shillings, was introduced, and the guinea disappeared. Incidentally, the value placed on the guinea in 1717 fixed the well-known "standard" price of fine gold, £3 17s. 10½d. per ounce. The importance of this figure is appreciated when we remember that it was incorporated in the Gold Standard Act, 1925. In that year there was a fundamental revolution in the currency system, but it passed quietly, probably because few men realized what was happening; at any rate only a tiny part of the electorate knew of it. The ignorance of electors on these important questions is one of the most interesting and probably one of the most significant aspects of our so-called democratic institutions; they sadly need education. It would be a great advantage, too, if politicians knew something about the history of the country they govern. To hand over the government of any society to such men as we select is like entrusting a garden to the care of men who have no knowledge of how plants have grown in the past.

It is an extraordinary fact that, though gold and silver have been used as currency so often, they are by far the most unsuitable metals for use as currency. Both are soft, and, when passed from hand to hand, soon shrink in weight, and therefore in exchange-value. By virtue of his creed a rationalist is almost compelled to regard men as rational beings; so in this rationalistic age it is pertinent to ask why a metal like gold was ever adopted as currency at all, and why, when adopted, it was not discarded as soon as its unsuitable character became apparent. That would have been the rational thing to do; but the truth is that in most of their actions human beings are urged by other considerations than reason, and we can only conclude that the magical and other virtues that have been commonly credited to gold have been regarded as more important than its disadvantages as a currency metal.

There may well have been some sacramental reason for the original adoption of silver as currency, but, so far as my knowledge goes, no information is available on the subject.

The Hellenes and Romans appear to have used gold because gold was used in Egypt, where it was regarded as the symbol of life, if not

as a life-giving substance. The medieval city-states almost certainly adopted it because the Romans had used it, and the English first began to use it because it was current in Europe. For silver similar data do not exist; but, whatever the reason for its adoption, its softness, like that of gold, has always been recognized, and, to give these magic metals the hardness that is vital to a metal-currency, an alloy, varying from one-twelfth to one-tenth, has always had to be added to them.

This necessity for an alloy has encouraged kings and governments to reserve to themselves the sole right of coinage; for by that means they have been able to play a cowardly but profitable trick on their subjects. This trick is the debasement of the currency; it constitutes the first argument against the use of a metal-currency.

When a metal-currency is coined, the question naturally arises, "Who shall issue the certificate of weight and fineness that each coin must bear?" The answer is that it does not matter at all, provided that the man who issues it is trusted by his fellow men. So far as the use of a metal-currency is concerned, there is no reason why private citizens should not be permitted to mint their own coins; and this in fact has often been done. All that a commodity-producer requires is the certainty that in return for his commodity he is receiving the agreed value, and, so long as the weight and quality of the coined metal is correct, all is well, whoever places the mark on the coins. The reservation of coin-issue to the king or government is in many ways convenient, for it ensures a uniformity that may be lacking when coins are privately issued; but it is not imperative. And if we examine the history of metal-using peoples, we find that kings and governments have reserved to themselves the right to issue coins, first, for the sake of this uniformity, and secondly, for another reason not unconnected with their own profit.

In the past one of the chief functions of a metal-currency, when first introduced, has been to pay tribute to a ruler or rent to a lord. These men have always been in a position to demand a good medium and to say what they would or would not accept in the place of the actual commodities or services due to them. Time, too, has been a factor in producing the same result. In the Roman Empire the right to issue coins was definitely confined to the *Imperator*, and in this as in so many other details, the Teutonic "kings" copied the example of an empire whose institutions had made so deep an impression on

them. The disintegration of the Roman Empire by no means killed Roman ideas, and the Teutonic-speaking peoples who came into possession of many old Roman lands often went out of their way to preserve those old Roman customs which seemed good to them.

The debasement of the currency was a favourite device with the Roman Emperors. It was even employed in the days of the Republic; Roman coins were debased in the time of the Punic Wars. Later the trick became such a habit that between the time of Augustus and that of Constantine the gold *aureus* descended from a forty-fifth to a seventy-second of a pound. During the same time the alloy in silver coins was increased till it constituted nearly three-fourths of the coin.

The various currency systems that existed among the Anglo-Saxons so complicate the history of Anglo-Saxon currency that few certain conclusions can be drawn about it; but when the energy of the English began to increase in the thirteenth century debasement was again resorted to. English silver coins were debased by Edward I, Henry VIII, and Edward VI; between 1300 and 1600 the amount of silver in a silver penny was reduced by nearly two-thirds. Silver coins have also been debased since 1914 and now contain merely a fraction of the silver they originally had. Indeed, they are no longer metal-currency at all; they are tokens. Still more recently, coins have been debased in the United States of America, in an endeavour, we are told, to make the metal currency work better. And the debasement trick can be played, it seems, to any extent, provided that commodity-producers permit it; the debased coins are made "legal tender" and are given what is called "liberating power," that is, the power to close a transaction finally and legally.

If we remember that honest metal coins are merely stamped commodities that have been selected to act as the medium of exchange, we soon perceive what rulers and governments gain by increasing the amount of alloy and decreasing the amount of metal in a coin. The most important advantage is that their debts can be paid with greater ease; for the bullion they possess can be made into a larger number of coins. The correct number of coins is handed over to a creditor; but, since the weight and quality of the coins are less, their exchange-value is also less, and when a debt is paid by means of debased coins its total is decreased by the amount of the debasement.

If a private person were to issue debased coins his clients could and probably would refuse to accept it; but a ruler or government can make a debased coinage legal tender, which no man can refuse to accept in payment of his due. It is this exclusive right to issue the stamp on the coins that has enabled the debasement trick to be played.

The trick, it must be noted, is sometimes popular, at least it can easily be made popular among ignorant people. For a man who earns a wage or an income can have his income raised, and the mere handling of the larger number of coins will often convince him that he has more purchasing-power than he had before. He soon discovers his mistake, of course, for the general level of prices soon rises. Commodity-producers have to receive a greater number of coins to make up the correct quantity of the metal; and it is when prices rise that wage-earners discover how they have been duped. But then it is too late. Each man receives a larger number of coins, but the total amount of metal in those coins is not greater than that contained in the smaller number of the old coins; so he has to give a larger number of the new coins in order to procure a supply of commodities.

It must be said, however, that besides affecting prices, debasement does not embarrass the exchange of commodities. The Romans found the *aureus* of Constantine just as convenient as the *aureus* of Augustus; the only thing was that the former contained less metal, and therefore had a smaller exchange-value and less purchasing-power. In a similar manner we find that our present coins are just as convenient as those we used in 1914; the only difference is that we get less in exchange for them. It is most important to remember this. Any form of currency is only adopted because it is convenient; the particular form of currency adopted by any society does not matter so long as it is the most convenient form. Its exchange-value or purchasing-power is quite immaterial, provided that it remains the same.

DISADVANTAGES OF A METAL-CURRENCY

We have seen that one of the disadvantages of a metal currency is that rulers and governments can alter, to suit themselves, the amount

of metal in a coin, and so reduce its purchasing power. We must therefore hesitate before we decide that it will be a suitable currency for the Hopousians.

We have seen that before one commodity can be exchanged for another one agreement must be reached on the question how much commodity A shall be given for commodity B. We have also seen that when a commodity is used as currency the exchange-value of all other commodities is expressed in terms of it. This expression is what we call *price*. Now metal is only a commodity; and, like other commodities, it sometimes varies in price. So in a metal-using society the prices of all other commodities are likely to rise or fall for no other reason than that the price of the metal rises or falls. If there is an abundance of it, those who possess it are usually ready to take less in exchange for it; if there is a shortage of it they probably want more for it; and any change in its exchange-value must create a corresponding change in the prices of all other commodities.

Let us get this clear. In a metal-using society price is the exchange-value of a commodity expressed in terms of the metal used as currency. Thus, whenever the exchange-value of the metal rises, the price of all other commodities falls, for the purchasing-power of the metal goes up. Whenever the exchange-value of the metal falls, prices rise; for the purchasing-power of the metal is less. Think of the human misery such changes create!

If, when the exchange-value of the metal changed, all prices rose or fell immediately and simultaneously, and if the rise or fall in prices was proportionate to the amount of the change, all might still be well if the society were a comparatively sluggish one. But in an energetic society there are such things as contracts and credit, and under such circumstances a rise or fall in prices (even if it is immediate, simultaneous, and in proportion to the fall or rise in the value of the metal) is a most embarrassing and inconvenient event. And it is doubtful if the change can ever be immediate and simultaneous. Some men's incomes are fixed, and it takes time to set in motion the machinery that fixes them. Moreover, some incomes are not fixed by reason but by custom, which is notoriously slow to change. Existing contracts, too, can hardly be changed in a moment; nor can a contract be so drawn up as to make allowance for all future contingencies. Even if existing contracts could be satis-

factorily adjusted to meet the new conditions, and even if the incomes of all income-earning men could be immediately changed by the correct amount, insuperable difficulties would still exist, for, when prices rise or fall, the position between creditors and debtors must alter and this cannot be rectified. One party or the other is sure to be adversely affected. So far as the exchange of commodities is concerned, it does not matter whether the level of exchange-values, expressed in terms of the metal used as currency, is high or low; but it does matter if it rises or falls; and when a metal is used as currency this is continually happening.

When we consider the matter dispassionately it seems difficult to believe that intelligent men should ever have subjected themselves to the distress that such a currency creates; yet when we look back along the stream of time, we find that, far from abolishing the use of metals, men have clung to them with dumb, unquestioning tenacity. Stoically, though quite needlessly, they have tolerated the suffering that has inevitably occurred whenever the exchange-value of their metal has changed, and they have even ascribed to God, or to some other hypothetical power, the responsibility for their troubles. Yet these troubles have never been part of the inherent nature of things, they have been the direct result of using metal as currency.

There is another point to be made about a metal-currency.

If commodities are produced and exchanged at a constant rate, and the supply of metal is sufficient to effect those exchanges, the convenience of a metal-currency is only reduced by the factors I have mentioned; but as soon as the members of a society become energetic, they always wish to produce and exchange an increasing number of commodities. In that case the disadvantages of a metal-currency are so great as to make its use downright impossible.

Consider what happens. If the number of exchanges increases, and metal is used as currency, a great quantity of the metal is required to facilitate the increased number of exchanges. This metal is either available or not. If it is available, and the quantity can be increased as fast as the production of commodities increases, everything will go well provided that the rulers do not debase the currency and the exchange-value of the metal remains constant. But can it be made available? If not, can its exchange-value remain constant?

Consider first what happens if an increased supply of the metal is immediately available.

As soon as there is an increase in the number of commodities that men produce and wish to exchange, there is an increased demand for the metal, which, if it does not increase in quantity, rises in price. The price of all other commodities then goes down. In relation to one another the exchange-value of these other commodities remains the same, but in terms of the metal used as currency their exchange-values fall. So the society must either revert to the policy of direct exchange (barter) or endure a general fall in the price-level. The former is almost out of the question; so in the past the latter has usually been the case. Prices have sometimes fallen till it has seemed hardly worth while to produce anything at all; stagnation and despair has been the result. Soon, however, the situation has adjusted itself. The number of exchanges has been reduced till it has reached the level at which the available quantity of metal is sufficient to facilitate them, and the society has then settled down to its limited life with a sigh of relief. But if it has preserved its metal-currency, and has not increased its stock of metal, the same situation has arisen again whenever the society wished to increase the amount of its commodity-production. Thus the result of having a metal-currency is that an energetic people, anxious to produce and to exchange an increasing number of different commodities, have been reduced to a condition of stagnation and despair because the total amount of those exchanges exceeds the amount of the metal that they happened to have chosen to act as currency. A perfect picture of human incompetence!

In the eighteenth century our own ancestors began to produce, and wished to exchange, an increased number of commodities. Gold and silver were used as currency, but a sufficient supply of the metals was not available when it was wanted, and things would have come to a pretty pass if a few bright men had not conceived the plan of issuing pieces of paper on which they wrote a promise to pay gold on demand. They never thought of abandoning gold as currency; they were trying to patch the system so as to make it work; and the pieces of paper they issued were used as currency. Naturally the situation was greatly eased; but it would never have been eased at all if each note had actually represented gold; for in that case there would have been no increase in the amount of available currency. As it was, a large number of the notes did not represent gold at all; so there was an increase in the amount of currency,

and trade proceeded briskly. Traders, of course, did not accept the paper for itself but because they thought it represented gold. They had no intention of abandoning metal as currency and would have been horrified if that course had been suggested. All went well till the men who had signed the notes were asked to produce gold. Of course they did not possess enough of it, and a crisis ensued. No one knew what to do next; the idea of discarding metal was not mooted; and many traders were completely ruined because in exchange for their commodities they had consented to receive a few pieces of paper which were worth nothing at all.

This comedy has been enacted on several occasions in our history; but what seems a comedy to us was a tragedy to the men whose lives it affected; and for the tragedy the use of metal-currency was solely responsible.

Can the supply of a metal ever be increased to the extent required by an energetic society? There seems to be no limit either to the number of commodities that energetic men can produce, or to the supply of raw material of which commodities are made, or to the new discoveries that energetic men can make in regard to the use of the raw material. But there is a definite limit to the quantity of metal. On April 30, 1925, transactions to the value of £263,255,000 were closed in London. Think of the prodigious amount of metal that would have been required to facilitate that vast quantity of exchanges! In January 1925, exchanges to the value of £3,770,864,000 were effected. Think of the inconvenience of transferring that quantity of metal! Even if enough gold had existed in the world, how could it have changed hands in the requisite quantities at the requisite speed?

For several reasons, then, metal seems to be an unsuitable form of currency for an energetic society to adopt. It lends itself to debasement; it causes chaos in the price-level if its own exchange-value happens to change; the amount of it cannot be increased unfailingly to meet an expansion in the total of commodity-exchange.

To the latter complaint we must now add its opposite, namely, that when metal is used as currency the amount of it cannot easily be contracted when contraction is vital to the commodity. We may combine these two complaints by saying that, so far as an energetic society is concerned, a metal currency is unsuitable because it is inelastic.

Experience has shown that, unless the amount of available currency increases or decreases with any rise or fall in the total amount of commodity-exchange, the general price-level is affected by the consequent change in the proportion between the two. This is one of the few inductive conclusions to which orthodox economists have come. If the supply of currency lags behind the requirements of the commodity-exchange process, the price-level tends to fall; if the supply of currency exceeds the requirements of the commodity-exchange process, the price-level tends to rise. Thus, when a metal is used as currency, the general price-level, in addition to being influenced by the exchange-value of the metal and by the amount of metal in a coin, always tends to vary with the proportion between the total amount of available currency and the total amount of commodities waiting to be exchanged. Since there is no way of increasing and decreasing the supply of metal-currency as the state of the commodity-exchange process demands, it seems impossible for a metal-using society to escape such price-fluctuations. There is no inherent need for them to occur; but they do, and apparently must, occur unless the quantity of available currency is in proportion to, and only limited by, the total exchange-value of the commodities men wish to exchange. In other words, unless the currency-system is elastic, the people suffer.

Now there is no doubt that in the first few years, perhaps during the first two generations, the Hopousians will wish to increase the number of commodities they produce and exchange. Their great mental energy will enable them to invent and to employ methods of production of which we only dream; and, until they have produced enough to make every member of the society secure, it is probable that the amount of commodities they produce and exchange will be gigantic. During the first two generations, therefore, they will need an increasing supply of currency to facilitate the exchange. If they do not receive it, the process of commodity-exchange will be handicapped in a most inconvenient manner. Moreover, in such a case the economic system would not be fulfilling the purpose for which it is being designed.

For this reason an inelastic medium like metal will not do. As currency, metal is superior to bars of salt, oxen, and chickens; its displacement of these was due to its greater convenience. But metal itself is only convenient when a limited number of com-

modities is being produced and exchanged; a society that produces a large fluctuating number of commodities will always find it unsuitable. So, in designing an economic system for the Hopousians, the first thing we must conclude is that we cannot give them any form of metal as currency. We must therefore continue our study of the past to ascertain the results of the use of other mediums.

Let me add that we have no idea how much currency the Hopousians will require at any time. All we know is that, whatever the total exchange-value of the commodities they wish to exchange, the total amount of available currency must always be in proportion to it. Otherwise the process of commodity-exchange will be embarrassed either by a superfluity or by a shortage of currency.

MENTAL HABITS CREATED BY THE USE OF METAL-CURRENCY

Since a metal-currency will not suit the purpose for which the Hopousian economic system is being designed, there will not exist in Hopousia any institution organized or administered in a manner suited to the use of metal-currency. We ourselves have several such institutions, and these institutions play so prominent a part in our life that the way in which they are administered runs the risk of being taken for granted. Before proceeding further, therefore, I think it would be well if I drew attention to some of the mental habits that they have created in our minds.

I particularly refer to the institutions we call "banks." It cannot be too greatly emphasized that banks as we know them will not exist in Hopousia.

When we consider even a small part of our economic history, say, the part from the sixteenth century to the present day, we cannot help being struck by its haphazard character. Our institutions have never been designed for any special purpose; they have just happened; and this is specially true of our banks. These owe their character to chance. Like the banks of previous civilizations, they are the fortuitous result of an uncontrolled, almost uncomprehended evolution.

This is well illustrated by the fact that to this day we are without

a legal definition of a bank. Indeed any definition would only be acceptable to a few persons here now. Other persons here now, and most persons elsewhere and at other times, would refuse to accept it.

The confused nature of our thought about banks and banking is also apparent when we remember that we have two kinds of banks, banks of issue and banks of deposit. The functions of these organizations are dissimilar and have no relation to one another; yet each is called a bank, and when we read the writings of some orthodox economists we often do not know, when they use the word "bank," to which kind of bank they are referring.

The matter is further complicated by the fact that some banks, like the Bank of England, are both issue-banks and deposit-banks. Indeed, in the case of the Bank of England, the separation of the two functions is a comparatively recent innovation. Till 1844 the Bank of England was one; it was only after Peel had persuaded Parliament to pass his famous Act that a distinction was drawn between the activities of the Bank. Only since then the Bank has had an issue-department and a banking-department.

The names given to these departments show what changes have taken place in the character of our banking system. The men in the banking department of the Bank of England perform the functions of deposit-bankers; but, if we had asked a man in the early nineteenth century what banking was, he would not have said that banking was deposit-banking. At that time it was thought that the power to issue notes was essential to a bank; a man who did not issue notes was not regarded as a banker; and the name given to the deposit department of the Bank of England illustrates the change that took place in the meaning of the word in the first half of the last century.

For although an early nineteenth century man would have said that a banker was a man who issued notes, this was not the original meaning of the word. In the seventeenth century it meant something different, just as it means something different now. When the plain man speaks of a banker now, he means a deposit-banker, but he no more comprehends the changes that have taken place in the meaning of the word since the Napoleonic Wars than a plain man who lived then comprehended the changes that had taken place in its meaning since the time of Cromwell. And to this day no

man can define a deposit-bank in a manner that would satisfy all other men.

It is possible to say that a deposit-bank is a group of persons who set out to receive currency on deposit, to keep it safely, and to repay it on demand. But that definition, while revealing one of the chief functions of a deposit-bank, makes no mention of its chief business, which is to make advances on security. Yet no money-lender can call himself a banker. On the other hand, any English citizen can apparently go to Somerset House and take out a banker's licence. In practice there might be difficulties, but legally no questions could be asked. The fee being paid, the licence must be granted.

Literally, as the proverbial schoolboy knows, the word "bank" denotes an elevated slope or shelf; in olden times it seems to have been used in reference to the shelf or counter erected by a shop-keeper who was prepared to receive valuable objects for safe custody. In the seventeenth century England was passing through a period of strife, uncertainty, and danger. Life and property were insecure, and rich men began to look for a place where they could deposit their metal treasures in safety. It was the custom to keep jewels, coins, and other pieces of metal-currency in strong boxes. In the time of Charles I these boxes were usually stored at the Mint, but one day Charles I took some of the metal stored there and used it for his own purposes. Unlike his son, who did the same thing a few years later, Charles I replaced the metal, but the Mint never regained its former reputation as a place of safety. So men turned to the goldsmiths. In the course of their trade the goldsmiths were compelled to have a strong-room in which they could store their metal, and after Charles I's arbitrary action the goldsmiths began to use these strong-rooms for the purpose of storing other persons' treasure as well as their own. The boxes containing the metal were handed to the goldsmith over his counter and then placed in the strong-room. The goldsmith gave his customer a receipt for the box, entered the transaction in his book, and promised to deliver the box on demand.

The principles on which our deposit-banks are administered to-day constitute a development, and not a very profound development, from this simple transaction.

The first change in the character of the goldsmiths' business

occurred when the exact contents of the box began to be recorded. Then loose metal was deposited. After that came the acceptance of a definite quantity of metal for a specified period.

The change from "on demand" to "specified period" was an important one; for it suggested the possibility of lending the metal to a third party for the period of the deposit. In the seventeenth century many men wished to borrow metal, and, since they could offer good security in the way of land and other property, there seemed to be little reason why the goldsmith, if he could trust his client to return the metal when it was due, should not lend his other clients' property, especially as he could charge interest on the loan. Was not this a simple way to get rich?

Time passed and steps were taken to refine the system of deposit and loan. Enterprising goldsmiths began to attract new clients by offering a moderate interest on all deposited metals. This metal was then lent to other clients at a higher rate, and soon the lending part of the business became as important as, if not more important than, the original "safe custody" part. Moreover, intelligent goldsmiths perceived that if they could attract enough clients they could always rely on a certain amount of metal being at their disposal permanently. This discovery also was important; for such metal could obviously be lent without regard for anything else than the financial terms of the loan. In this manner the period for which a deposit was made began to lose its original significance.

In an endeavour to attract new depositors, the descendants of the old goldsmiths began to afford still greater facilities to their clients; soon current accounts became a recognized habit. Under this system, instead of depositing their metal for a specified period, clients were encouraged to leave the metal with the goldsmith indefinitely, and not to withdraw it all at once, as had at first been the custom, but as they needed it.

This introduction of current accounts necessitated a change in the method of conducting the business. When deposits were made for a specified period, all the metal could be lent for the whole period of the deposit; a proportion of the total deposits could also be lent without much regard for the period of any single deposit; but when current accounts became common a certain proportion of the metal had to be kept permanently in stock; for any customer might demand either the return or the transfer of some metal at

any time. This meant, first, that the amount of metal lent had always to be less than the total deposits, and, secondly, that all loans had to be made for as short a time as possible. And out of these two simple facts there arose the two great principles which still control, or are alleged to control, the conduct of English deposit-bankers: (*a*) resources must be kept as liquid as possible; (*b*) a certain amount of "cash" must always be kept in the till, the amount of this "cash" being in direct proportion to the total amount of deposits.

English deposit-bankers still dislike the idea of what they call "long-term loans"; they still keep, either in their tills or at the Bank of England, a definite amount of what they call "cash." They no longer administer a metal currency; the meaning of the word "cash" is no longer what it was when the goldsmiths formulated the principles to which I have referred. But those principles have behaved like wine; time has given them strength, till they are now treated as if they were divine ordinances. Our present deposit-banks are large, but their character is the same as that of the little shops in which gold was worked in the seventeenth century. By the beginning of the nineteenth century there had grown up in the city of London a number of small private banks, which received metal on deposit, lent it to third parties, and made advances on security. These banks were owned by the successors of the goldsmiths, and these men carried on the old tradition. During the next three generations deposit-banking was seen to be a most profitable business, and joint-stock deposit-banks began to appear at an early date. These soon took the place of the small private deposit-banks, which were gradually absorbed or jostled out of existence by their stronger brethren. Later, in order that the joint-stock banks might make the maximum profit, and in order that their services and resources might be available to all members of the community, joint-stock deposit-banks were gradually amalgamated, till almost the whole of the deposit-banks in our country were owned or controlled by five large companies. But the size of these banks has not made any difference to the principles on which they are administered; and, though most deposit-bankers are said to disregard the old principles in the normal course of their business, all of them are still careful, when producing their balance-sheets, to appear as if they kept them to the letter.

Round the mental habits of the old goldsmiths our deposit-bankers have placed a kind of halo, which they fear to remove. Every year, when the shareholders meet to be told what profit has been made during the past year, the chairmen and directors of our deposit-banks pay lip-service to the old principles. We are still told that the function of a deposit-banker is to keep safely the possessions of his clients, that his resources must be kept liquid, and that the total amount of his advances must be less than the total amount of the deposits he has received. Books are also written on these subjects, warnings issued. Arguments in favour of a short-term or long-term policy are restated, reforms suggested. But the ghost of the goldsmith stands behind each speaker, whose words are nothing but an echo from the dead past. We no longer use a metal-currency; yet so strong is the ancient tradition that our deposit-bankers still behave as if we did.

Now the abandonment of such ideas is not easy; for time has fortified them. Yet I must beg that you forget everything you know about deposit-banking. We have not yet decided what kind of currency will suit the convenience of the Hopousians; all we know is that they will not have a commodity-currency or any form of metal-currency; and as a result of this decision we have to dismiss from our minds all idea of a deposit-banking system. No question arises about the reform of it; deposit-banks simply will not exist in Hopousia. Questions about the advantages of a short-term or a long-term loan policy, about the safe custody of clients' possessions, will not arise there. Such questions only arise when a society uses a metal currency and can be dismissed as surely as our metal-using forefathers dismissed the idea of using a cattle-currency.

Any talk about gold standards, silver standards, specie standards, gold bullion standards, gold exchange standards, gold reserves, proportionate gold reserves, and any other metal standards, or reserves, is also irrelevant to the work we have to do. In Hopousia no institution will be organized on any metal basis at all. Gold and silver may be regarded as useful substances on which craftsmen can exercise their skill; they may also be used as a form of decoration by means of which the male can impress the female and the female attract the male. But neither of them will have anything to do with the economic system.

In connection with deposit-banking some publicists speak as if

deposit-bankers create "credit." Much confusion has been caused by this looseness of speech, which, unfortunately, cannot be disregarded because the word "credit" is so important in any economic discussion that it must be retained. But to use it in connection with deposit-banking is indefensible. Would-be reformers are especially guilty. Their desire to see some change in our deposit-banking system is evidently greater than their knowledge of that system.

So-called "bank-credit" is an arrangement by which a client is permitted to overdraw his account in return for the deposit of a security. It is money-lending. No deposit-banker ever creates credit, any more than a money-lender creates credit. Our deposit-bankers have done well to deny the charge strenuously. Deposit-bankers make advances on security, and only a man with an imperfect knowledge of the subject can think that they do anything else.

It will be helpful if, in dismissing from our conscious minds the existence of deposit-banks, we also dismiss the notion that they create credit.

CHEQUE-CURRENCY

A metal-currency served our ancestors well enough for so long as they remained a comparatively lethargic people, but during the seventeenth century, under the leadership of a dominant squirearchy, they became a very energetic people indeed. They then discovered that a metal-currency was not suited to their purpose. After the formation of the Bank of England in 1694 the history of our currency is the story of an unsuccessful effort to make a metal-currency perform a task which it can never be made to perform. Many changes were made in the law, various expedients adopted. None was satisfactory; and to this day the trouble has not disappeared.

We can only understand the behaviour of our forefathers, or indeed that of contemporary statesmen, if we bear in mind the lugubrious truth that, whatever sufferings their old habits inflict on them, human beings are reluctant to change. A rationalistic society is no exception to this rule; it clings to its ancient traditions with the tenacity of the savage. It is the custom among rationalists to call savages "superstitious." By this they mean that savages have an irrational fear of the unknown and a misdirected reverence for

irrational practices. It seems to me that contemporary statesmen are as superstitious in their attitude towards economic affairs as uncivilized men are in their attitude towards the external world. Uncivilized men are reluctant to discontinue their ancient rites because they fear what would happen if they did so; even so we seem to preserve an irrational currency-system because we fear what would happen if we abandoned it. Men much dislike a plunge into the unknown.

If we regard human beings as rational creatures the story of our currency-history during the past hundred years seems incredible; but, if we remember that men are frightened of anything to which they are unaccustomed and that they are fearful of change, the story, though perhaps depressing, is at any rate simple to understand.

In the early nineteenth century, as I have said, there was a fixed idea in men's heads that the power to issue notes was essential to a bank. So the Bank of England, being the only joint-stock organization that possessed the power to issue notes, was regarded as having a monopoly of joint-stock banking. But the successors of the old goldsmiths had found it extremely profitable to receive metal on deposit from one man and to hire it out to another man, and in 1822 they realized that the Bank of England's Charter did not forbid the formation of joint-stock companies for the purpose of carrying on this business. Many such deposit-banking companies were therefore formed. The proprietors of the Bank of England saw the danger, protested, and did everything in their power to embarrass the new companies; but they were powerless to prohibit such formations, and the companies flourished greatly. Their profits were large, and they soon began to acquire a controlling interest in the business of some of our private country bankers. In this way they secured the power to issue notes. By doing so they trespassed more than ever on ground that the Bank of England regarded as its own; indeed, the privileges conferred on the Bank by its Charter ran the risk of being nullified. But Parliament, still dominated by the squirearchy, did not take any notice till pressure was put on it by other and stronger forces than the proprietors of the Bank of England.

At this time bank-notes were not legal tender, but, as there was not enough metal in the country, some form of additional currency

was needed to facilitate the exchange of commodities; so, since the bank-notes were the only other things available, everyone used them. But there was no limit to the number of notes a private country banker could issue, and the time came when some country banks, particularly, perhaps, those controlled by the new joint-stock deposit-banks, began to issue a far greater number of notes than their clients or their critics thought wise. Doubts were then expressed in regard to the solvency of these banks; gossip spread; and the people who held the notes brought them to the banks and demanded metal in exchange. Of course the bankers did not possess enough metal to cover the notes; so they were forced to suspend payment.

In the second and third decades of the nineteenth century there were several crises of this absurd character, and two specially bad ones in 1814 and 1816, when no less than two hundred and forty banks closed their doors. More than one in three went bankrupt. In 1825 seventy more banks went down, and the panic caused by these disasters, reinforced by the Bank of England's fury at the formation of the new joint-stock banks, compelled Parliament to take action.

The Act of 1826 was a piece of political patchwork. Granted the use of a metal currency, the trouble had only one source, namely, the fact that bankers were permitted to write pieces of paper which implied their possession of metal they did not in fact possess. But the country bankers were politically so strong, and the bank-notes so vital an addition to the old metal currency, that Parliament dared not, or at any rate did not, tackle the question. Instead, it compromised. The Act of 1826 removed the restriction on the number of partners in a country bank, permitted the establishment of joint-stock banks outside London, and forbade the issue of any notes purporting to represent less than five pounds of metal. It did no more than this.

The Act was a defeat for the Bank of England and the new joint-stock banks were not slow to celebrate their victory. Many new joint-stock banks were formed; there was still no limit to the number of notes that any bank could issue; every bank with the power to issue notes hastened to bring large notes into circulation; and the inevitable results ensued. There was a collapse in 1836 and another in 1837. In 1839 the Bank of England, which does not appear to have

been careful about its stock of metal, had to implore help from the Bank of France. Even then Parliament was content to let things slide, and it was not till four and a half years later that something useful was done. Sir Robert Peel then persuaded Parliament to pass the Act of 1844, which, first, divided the Bank of England into two parts, an issue-department and a deposit-department, and, secondly, placed a definite limit on the amount of the note-issue.

The Act of 1844 was a victory for the Bank of England, and we may notice that it was passed by a Parliament elected after the passing of the Reform Bill. The Act concentrated the note-issue in the Bank of England, which was allowed, on the strength of the government's debt, to issue the equivalent of fourteen million pounds of metal it did not possess. No new bank was permitted to issue any notes at all; old banks could not issue more than the average number they had in circulation during the twelve weeks preceding April 27, 1844. If an issuing bank was amalgamated with a joint-stock bank, or increased the number of its partners beyond six, it lost both its issue and its power of issue. But, since this clause ran the risk of reducing to a dangerous level the amount of currency in circulation, the Act said that in such circumstances the Bank of England could increase its own issue by two-thirds of the cancelled issue. The cancelled issues were equivalent to just over eight million pounds of metal; two-thirds of this was about $5\frac{3}{4}$ pounds of metal. Thus, after 1844, the amount of the note-issue not covered by metal was limited to $19\frac{3}{4}$ millions. Any issue in excess of that quantity could only be made against an equal amount of metal; that is, in excess of $19\frac{3}{4}$ millions the Bank of England was not allowed to issue any promise to pay metal unless it actually possessed the metal.[1]

It was in the debate on the 1844 Act that Peel used the words I quoted near the beginning of this chapter. The chosen currency of England, he said, was not paper but metal. The thing that men called a pound was "a certain definite quantity of gold, with a mark upon it to determine its weight and fineness." If a man promised to pay a pound to another man, the promise meant that he would hand over, on demand, "that definite quantity of gold." If metal is used as currency, no man can pass any adverse criticism on what Peel said.

[1] Between 1928 and 1931 the limit was raised to 240 millions. The reason was that the Bank of England had assumed responsibility for the Treasury Notes issued after the suspension of the Bank Act in 1914.

The Act of 1844 had two important consequences. After it had been passed there arose a proverb about being "as safe as the Bank of England." The compliment was deserved. True, the Act permitted the Bank to issue notes on the strength of a debt; but it prevented bankers from growing rich by issuing, and being paid for the hire of, written promises they knew they could not keep. And it was after 1844 that the word "banking," which for some time had been changing its meaning in the plain man's mind, came to denote more particularly the process of deposit-banking; that is, the business of receiving one man's metal for safe custody and hiring it out to other men at a price.

The second important result of the 1844 Act was the promotion of the bank-rate to a position of international significance. The bank-rate is the rate at which the Bank of England is prepared to discount bills. After the Act was passed there was no way of increasing the supply of currency except by increasing the stock of gold, and the proprietors of the Bank of England began to manipulate gold movements by changing the bank-rate. The method of the old goldsmiths, we must remember, had become part of the inherited tradition and were taken for granted as *the* way to do things. So everyone who had any metal was eager to deposit it in the place where it would earn the highest fees. The greater the price a banker consented to pay for deposited metal, the more metal was deposited with him; the more gold the Bank of England possessed in its vaults, the more currency it could issue. So the gold-game began and was played with enthusiasm and intelligence. "Seven per cent will bring gold from the moon," men used to cry. And it did. For nearly a hundred years, by raising or lowering the bank-rate, the proprietors of the Bank of England kept the supply of gold, so far as they could, where they wanted it; and on the shelves of our libraries you will find many learned treatises that were written about gold-movements. Indeed, the game of transferring gold according to the bank-rate still continues in some countries, though to a lesser degree than formerly.

In spite of its rational provisions in regard to the note-issue, the Act of 1844 did not have an easy passage; the arguments against it were strong. At that time the middle classes, who had succeeded to the domination of our society, were full of energy. The railway age had begun; the population was increasing fast and men needed a

growing supply of currency to facilitate the exchange of the additional commodities they were producing. The critics of the Act saw plainly that the imposition of a limit on the issue of notes placed a limit on the supply of currency; whereas they naturally wanted the supply of currency to increase according to the state of the commodity-exchange process. True, the supply of currency would increase if the stock of metal increased, but there was no reason to think that the supply of metal was equal to the demand. The Act, they thought, would be a burden to the trading community; traders on the look-out for currency would not find any. The imposition of a limit on the number of notes a bank could issue was like placing an iron fetter round an expanding ball. Sooner or later the fetters would be broken and there would be an explosion.

Peel made no attempt to answer the argument directly. With that doggedness which was so notable a part of the Victorian character, he was content to state that a pound was a pound of metal and that no amount of talk would alter it.

Subsequent events proved that the critics were right. The Act was such a failure that it had to be suspended in 1847, 1857, and 1866; loud debates about it took place. Indeed when Bagehot wrote his *Lombard Street* he thought it wise to begin by announcing that he would say as little as he could about the Act. "There has been," he said, "so much fierce controversy as to this Act, and there is still so much animosity, that a single sentence respecting it is far more interesting to many than a whole book on any other part of the subject. Two hosts of eager disputants ask of every writer the one question, "Are you with us or against us? and they care for little else."[1]

Bagehot's book was published in 1873; he began to write it in 1870. How is it that at that time he could disregard a controversy that had raged for nearly thirty years? Can it be that by 1870 Bagehot had come to see that the question was dead? Moreover, after 1866 the Act did not have to be suspended again till 1914. Why?

The reason is that, quite unconsciously, our fathers began to use a new kind of currency, which existed alongside the old metal currency and so increased the amount of available currency. Moreover, the new currency was of such a kind that its amount could be increased at will. Officially metal was still the only form of currency

[1] W. Bagehot, *Lombard Street*, p. 2.

recognized in England; metal was also exclusively used in all international exchanges; but internally the process of commodity-exchange was facilitated by the gradual introduction of cheque-currency. And I do not exaggerate when I say that the accidental introduction of cheque-currency was historically a more important event than either the substitution of metal for a currency like cattle or the introduction of any currency at all. The reason why the controversy over the Act of 1844 soon died is that all objections to the Act were removed when the majority of transactions began to be closed by cheque.

The curious thing about the cheque is that no one knows who invented it or when it was first used. The word comes from Old French *eschec*, which seems to have been derived from *scaccus*, the medieval Latin for Persian *shah*, king. The word was used in the game of chess to denote a move that directly attacked the king. The word *mate*, also used in chess, comes from the same source, *shah-mat*, "the king is dead."

From its original meaning "check" or "cheque" soon came to mean any stoppage or hindrance, and was then applied to anything that stopped, hindered, or restrained anything; hence to a ticket or counterfoil, especially the counterfoil attached to a draft of payment. The counterfoil checked any alteration being made in the draft, and, by common usage in this sense, the word "check" or "cheque" became almost synonymous with "draft," and finally superseded it in the speech of ordinary men.

When the system of deposit-banking was refined by the successors of the old goldsmiths it became the custom for a client who wished to withdraw or to transfer some of his metal to write an order to that effect. The cheque was an order from a client to transfer the metal he owned to the person named in the cheque. Alternatively, it was an order to the bank to hand over the man's metal. And it is to this custom that Withers refers when he says that "the right to draw a cheque carries with it the immediate and invariable right to demand gold."[1] But under such circumstances the cheque is not currency but merely an order to transfer an amount of metal currency. If there had been no further development, cheques would never have become currency. As things were, developments were rapid and great.

[1] Hartley Withers, *The Meaning of Money*, p. 93.

In the early days the goldsmiths recorded in a book the amount of metal deposited by each client; and when cheques were first used a client might order some metal to be transferred to a man who kept his metal with another goldsmith. This meant that the metal had to be moved to the house of that goldsmith. The result was that each goldsmith or banker had to send a clerk to many other houses each day to collect the sums due to his clients. Between 1750 and 1770 these clerks arranged to meet at a definite place and exchange with one another the cheques drawn upon their respective houses.[1] These meetings were plainly most helpful, and the point to notice is that the quantity of metal needed to cover the transactions was then much less than it would have been if the metal for each transaction had been actually transferred. For clients might write cheques for thousands of pounds; yet, owing to the contra-account, no metal changed hands.

Later no metal was moved at all. The joint-stock deposit-banks kept their stock of metal in a central place and opened accounts for one another in their books. Alternatively, each opened an account with the Bank of England. Their liability to their clients was recorded in the old way, but the metal, instead of being transferred in accordance with the order written on the cheque, remained where it was. Eventually each transaction resulted in nothing more, so far as the banker was concerned, than writing some figures in a book. Moreover, no one inquired whether or not the stock of metal was great enough to cover the total of these figures.

Meantime, our fathers grew more and more wealthy. The raw materials from conquered lands were imported and manufactured; a larger and yet larger number of commodities was produced; and, to close the increasing number of transactions, cheques were used more and more. They were also written for larger and larger amounts. When the cheque was first used the figures written on a cheque always represented a definite quantity of metal that existed somewhere; but in the second half of the nineteenth century this was no longer the case. The value of the cheques cleared in a single day was far greater than the total amount of metal currency in the

[1] These meetings subsequently developed into The London Clearing House. At first they were confined to the clerks of the private bankers; and so great was the influence of these men, so conservative their habits, and so keen their jealousy of the joint-stock banks, that it was not till 1884 that any joint-stock bank was permitted to be a member of the Clearing House.

country. It was then that the cheque itself became currency. So long as the figures actually represented some existing metal, the cheque was merely an order to transfer to another person that amount of metal currency; but, when the total amount of written cheques exceeded the amount of metal in stock, cheques themselves were currency. Their function was to act as the medium of exchange by transferring to other persons the amount of purchasing-power that the figures represented.

I have no doubt that some observers, when they perceived the extent to which cheques were facilitating the process of commodity-exchange, raised their eyebrows in surprise; but no crisis ensued, and it was not long before the total amount of commodity-exchange facilitated by cheques in a single day was gigantic. The total amount of gold in the world would not have equalled it.

Do not underestimate the enormity of the change that must have occurred. When cheques were first used they merely transferred to a new ownership a quantity of gold, but it is plain that the cheques cleared on April 30, 1925 (as I pointed out earlier in the chapter), did not do so; for they totalled £263¼ millions and there was not so much gold in England. We still have some gold, but its quantity is small, and it would not cover the transactions that take place in a single centre on a single day. Yet the process of commodity-exchange proceeds apace. Indeed, everyone knows that if all the gold in England were dropped into the sea to-morrow the process would still continue. In other words, we no longer use a metal currency; we have adopted a cheque-currency. By its means about 90 per cent of our transactions, and all the important ones, are closed.

Metal used to be our medium of exchange; now the medium that transfers purchasing-power from one man to another is the cheque.

Like most important inventions the cheque is a simple device, and, when I look back along the stream of time, I am always surprised to find no trace of cheques being used in previous civilizations. The Athenians, whatever else they may have been, were economically obscurantist; so they could not well be expected to have invented so useful a medium of exchange. But the Babylonians and Romans gave much thought to economics, and I find it difficult to think that men like Hammurabi and Trajan tolerated the exclusive use of a metal currency without modification. I fail to see how they were able to administer their vast empires without the help of some

such written orders as those we call cheques. But, so far as my knowledge goes, there is no direct evidence of cheques being used in Babylon or Rome. The credit for having first invented the cheque, or at any rate for having first brought it into common use, must be given to our own immediate ancestors.

How beautifully the cheque works! In our society millions of transactions take place every day, but cheques are so convenient a form of currency that these exchanges, whatever their amount, are facilitated to a degree that would be astonishing if we were not so accustomed to it. There is none of that cumbersome delay that metal-using societies experience; no necessity to move great loads of metal from one place to another; no transport difficulties, no need for great vaults to store metal in; no fear of raids for treasure: none of these things. Moreover, safeguards are simple to arrange; forgery is rare, clipping and debasement impossible. The whole business is done by pens making marks on pieces of paper and in books.

When metal is used as currency there is always a danger of a change in the general price-level being produced by a change in the exchange-value of the metal. When cheques are used as currency this cannot happen. Exchange-value is a quality possessed by commodities only. A book of blank cheque-forms is a commodity, but a written cheque is not a commodity. Its only value lies in its performance of its function, that of being an order to transfer certain figures from one page in a ledger to another page, or from a page in one ledger to a page in another ledger. When the cheque has performed this simple but valuable task it can be destroyed.

But the most significant thing about a cheque-currency is its elasticity; a vital quality in a currency.

It is sometimes debated whether our deposit-bankers issue currency or not. Some maintain that they do. Thus Withers says of deposit-bankers, "By providing their customers with cheque-books they create the currency which settles the great majority of commercial and financial transactions and much of the retail traffic of daily life."[1] But many economists deny this. Our currency-issue, they say, is concentrated in the Bank of England.

It seems to me that both are right; but they speak of different things. Withers has also expressed himself carelessly. In discussing

[1] Hartley Withers, *The Meaning of Money*, p. 121.

cheque-currency we must always be careful to distinguish between what may be called *potential currency* (blank cheque-forms) and *circulating currency* (written cheques). Our deposit-bankers issue the former but not the latter.[1]

In a cheque-using society the supply of potential currency (blank cheque-forms) is for all practical purposes unlimited; and it is this lack of limitation that gives to cheque-currency its delightful elasticity. The number of cheques in circulation is only limited by the amount of purchasing-power that men wish to transfer to one another in return for commodities or services received.

We have seen that it will be essential for Hopousian currency to keep pace with the demands of commodity-exchange process; or the people will suffer. Reduced to exact terms, this means that the quantity of available currency must always be in proportion to, and only limited by, the total value of the commodities the people wish to exchange. Otherwise the process of commodity-exchange will be embarrassed by a superfluity or handicapped by a shortage of currency. Cheque-currency is the only form of currency that possesses this virtue. It seems, therefore, that cheque-currency is the currency for the Hopousians to adopt.

We have no idea what the total of their commodity-exchange will be, but whatever it is we may be sure that the amount of available currency will be in proportion to it. For their supply of potential currency will be inexhaustible; the only limit to the amount in circulation will be the extent of their purchasing-power and their own caprice, which is what we want. A cheque-currency, then, they shall have.

TOKEN-CURRENCY

But cheques are not always the most convenient kind of currency when small irregular payments have to be made. Tobacco, tips, odd meals and drinks, postage stamps, telegrams, railway and theatre tickets, bus fares, etc., are examples of purchases that cannot be made by cheque as conveniently as by some other form of currency.

[1] The economists refer to the old-fashioned bank notes and the new-fashioned tokens. According to statute-law the Bank of England alone may issue these forms of currency. Indeed, statute-law really only recognizes the existence of metal currency, so out of date is statute-law.

Such purchases are made every day by most persons, and the Hopousians will require, I think, in addition to their cheque-currency, a small supply of some other currency.

It is possible, of course, for all these and similar payments to be made by cheque. If you have lived in a small European community in Africa or Asia you know well how much can be done by the issue of chits, which, after being signed, are allowed to accumulate till they are cancelled at a later date by the writing of a cheque to cover them. It is possible, too, for a person living in a college, or as a member of a brotherhood or sisterhood, to obtain from the kitchen or buttery all such odds and ends and to close any number of small transactions by writing a single cheque. Under such circumstances cheque-currency is the only kind of currency that is used. But I doubt if Hopousian life can be organized within the limits of such a system. It seems to me that some other form of currency than cheque-currency will be needed, at any rate at first, so that no inconvenience need arise when, say, a person travels to a part of the country where he is not personally known. His larger transactions may be closed by means of travellers' cheques or letters-of-credit; but for his smaller ones he will require, I think, some other kind of currency to perform the function which in some small communities is performed by chits.

For this additional form of currency I suggest tokens.

Tokens are small articles which by the human will possess purchasing-power. For the sake of human convenience, which is the sole reason for the existence of currency, they are usually of such a size and shape that they can easily be passed from hand to hand. Their purchasing-power does not depend on their commodity-value; it is given to them by law. They can be made of any suitable material, paper, nickel, copper, almost anything. Their nature does not matter provided they serve the purpose for which they are required and stand the wear and tear of constant circulation.

Old-fashioned persons sometimes express a dislike of tokens; for, they say, the things have no value. That is true. But to condemn a form of currency because in itself it has no exchange-value reveals a misunderstanding of what currency is. So long as a piece of currency does the work for which it is brought into use, its own character does not matter a jot. The pound and ten-shilling notes we use now, as well as our so-called silver coins, are tokens; and,

to emphasize the change that has taken place in our society since 1844, I draw attention to the fact that nowadays provincial traders do not like our Bank of England notes so much as our pound and ten-shilling notes. It is not the size of the note that men object to but its character. Yet our bank-notes are supposed to represent metal and therefore to have "value"; whereas the other notes, as everybody knows, have no commodity value at all. In other words, we not only find that tokens do their job; we also prefer them. Our ancestors, of course, would have been horrified at the thought of using them, but that is because they spent their early youth in a metal-using tradition.

The great advantage of tókens is that their purchasing-power does not change even if they are made of metal-alloy and there is a change in the exchange-value of the metal of which they are made. Moreover, their character and contents can be changed at any time without affecting their purchasing-power. They are extremely convenient for small payments, and their issue is a simple matter. If they are made of paper, all you want is a printing press and a good watermark; if of metal, a closed Mint is implied. One safeguard is necessary: tokens may only be made legal tender for small amounts. If these conditions are fulfilled, a token-currency is in every way superior to a metal currency, and I conclude that the Hopousians will find it convenient to close about 10 per cent of their transactions by tokens of such a character as seems to them most suitable.

I say "about 10 per cent" because we cannot exactly decide what the amount will be; the precise figure will depend on human caprice. All we can say is that all transactions not closed by cheque will be closed by the transfer of tokens; and since we cannot tell how many cheques any person will write, or for what amounts he will write them, we can only make a rough estimate of the supply of tokens that will be required. We ourselves find that in addition to our cheque-currency we need some token-currency; among us the proportion is about 10 to 1; so I suggest that the Hopousians will need a similar amount. But the estimate is only approximate; experience alone will show whether 10 per cent is too high or too low a figure. Indeed, it is probable that the amount of token-currency in circulation will vary according to the time of year. When a lot of people are moving about, the amount will increase; in close seasons it will decrease. That is obvious. The important

point is that there will have to be made available such an amount of token-currency as the people will need to settle without inconvenience all the transactions they do not choose to close by cheque.

This being agreed, I propose to dismiss the question of token-currency for a time in order to discuss the many details that arise in connection with the issue and administration of cheque-currency.

THE ISSUE AND ADMINISTRATION OF CHEQUE-CURRENCY

We are now in a position to begin the creation of our first economic group. To decide what it will be like, it is best to summarize shortly how commodities are exchanged in a cheque-using society.

When cheques are used as currency X commodity A is first exchanged for a cheque, on which certain figures are written. The function of the cheque is to act as the medium of exchange by carrying the figures from the consumer to the producer. The figures represent the exchange-value of the commodities the consumer has received. When the cheque has been accepted it is sent to a convenient place to be cleared. This clearing consists in the actual transfer of the figures from the person signing the cheque to the person named in the cheque. A clerk takes the cheque, adds the figures to the total already in possession of the vendor and subtracts them from the total possessed by the purchaser. This concludes this part of the transaction. The cheque has done its work and can be destroyed.

The person in whose favour the cheque is drawn is now entitled to receive commodities to the value expressed by the figures. In his use of this purchasing-power he can split the total how he pleases according to the value of the commodities he wishes to possess. When he purchases those commodities he in his turn writes cheques, which carry some of the figures to the producer of the commodities. These cheques are then cleared, and, as soon as the clerking has been done, the second man writes cheques in exchange for the commodities he wants. These cheques carry a supply of purchasing-power to the producers of those commodities, and these men in their turn write cheques, which are cleared in the same way. And so the unending process of commodity-exchange

continues. In every case the cheques can be destroyed as soon as they have carried the figures from one page in the ledger to another page; the number of cheques is only limited by the amount of purchasing-power men wish to exchange for commodities. No form of currency could possibly be more simple or more convenient.

For the issue and administration of this currency the Hopousians will require a supply of

(1) printing-presses to print cheque-books (potential currency);
(2) books and files in which the figures can be entered;
(3) machines to conduct the additions and subtractions;
(4) clerks and overseers to supervise and supplement the machines;
(5) safe, strong, conveniently placed, and (to avoid giving offence to cultured men) beautiful buildings in which the books and files can be stored and the clerks interviewed.

So far as the issue and administration of their cheque-currency is concerned, the Hopousians will need nothing else than this. Books, files, adding machines, clerks, supervisors, and buildings: that is all.

There is no reason why, if we wish, the buildings should not be called "banks"; and for the sake of simplicity I will use the word; but we must not assume that there will be conducted in the Hopousian banks any other business than what I have described. Nor will there be, for instance, five large banks and a few small ones, as we have. When I speak of a Hopousian "bank" I mean the building, not the organization that owns the building.

There will obviously have to be some organization to control the activities inside the multitude of banks the people will need; but I do not wish to discuss that yet. At the same time it is worth noting that, when the institutions we use now are changed into Hopousian ones, there will be no disturbance of the clerks in our deposit banks. Nor will there be much outward difference in the work done by these clerks. The buildings we call banks, the men we call bank clerks, the ledgers and adding machines in our banks: all these will be required; and the duties of the clerks will be almost the same as they are now. They will keep accounts and issue potential cheque-currency. The only difference, perhaps, will be that they will be given as many machines as possible to relieve them of much of their drudgery. They will thus have greater opportunities

for gaining experience of more important sides of economic life. Adding machines are being introduced into some of our banks now; unfortunately the banking companies then dismiss some of their staff. For reasons that will soon be apparent, this will not happen in Hopousia.

The men we call bank shareholders and all others who play no definite part in the administration of our banks will not be required.

Perhaps the greatest difference between the Hopousian banks and our banks will be that their banks will not conduct a deposit-banking business; but we have yet to discover what their function will be. Up to now, all we have discovered is that the men in the banks will issue the potential cheque-currency and administer the circulating currency. Their performance of the latter task means that they will keep a record of the purchasing-power possessed by each person or persons.

CHAPTER VII

Money

THE FUNCTION OF MONEY
MONEY AS A SYMBOL
MONEY MARKETS
THE ISSUE OF MONEY

In considering any economic phenomenon, it is always best to begin by asking what happens when commodities are directly exchanged. That is the transaction from which all economic systems, however complicated, have developed. An economic discussion that does not begin there is always in the air.

When commodities are directly exchanged men give what they possess and do not want in exchange for what they want and do not possess. Two men meet; each possesses a commodity; each wants what the other has. Commodity A is then exchanged for commodity B.

When a form of currency is used the character of the transaction remains the same, but it takes place in two steps instead of in one, and the details alter according to the nature of the currency that is used.

If a commodity C is used as currency, commodity A is first exchanged for commodity C; commodity C is then exchanged for commodity B. If metal coins are used as currency, commodity A is first exchanged for metal coins, then exchanged for commodity B. If cheques are used as currency, commodity A is first exchanged for a cheque, which, like commodity C and the metal coins, acts as the medium by means of which the desired exchange takes place. In each case the character of the transaction remains the same; only the details alter.

The difference between a direct exchange and an exchange by means of currency is that in the former case the producer or pos-

sessor of a commodity only consents to exchange it for something he wants. In the latter case he consents to receive a supply of currency which at some future time he is able to exchange for what he wants.

Here we may notice another advantage that cheque-currency and token-currency have over commodity-currency and metal-currency. If a commodity is used as currency it may be wanted either for its sake or because it is commonly accepted as currency. In the former case a direct exchange takes place, and the economic system of the society is complicated by the fact that some of the exchanges between its members are direct, others indirect. It is the same when metal coins are used as currency. These coins are only lumps of metal with a mark upon them to certify their weight and fineness. The metal itself is a commodity, which may be wanted for its own sake, and a man might exchange a commodity for metal coins in order to melt them down. Such an exchange is also in its essence a direct one; for the coins, when melted down, cease to be currency and become a mere commodity. In this case too the economic system of the society is complicated by the fact that some of the exchanges between its members are direct, others indirect.

When a cheque-currency or a token-currency is used this complication does not arise. No man wants a cheque or a token for its own sake; he only wants it because he is able to secure something in exchange for it. The result is that the economic life of a cheque-using or token-using society is simpler than that of any other society; for all the exchanges effected by its members have the same character. All are indirect, none direct.

I have said that orthodox thought can be compared with a railway train which runs on certain lines and therefore arrives at a certain destination. Till now we have been moving along those lines. But our thoughts begin here to take a new direction. When a signalman switches to Birmingham a train that would otherwise arrive at Westbury he alters the direction of the train very slightly at first; but as the train proceeds it moves further and further away from the trains that travel on the other line, till it eventually arrives at a destination far removed from that reached by the others. Even so the difference between orthodox thought and our thought will only be slight at first; but the conclusions at which we shall finally arrive will be much different from those reached by orthodox thinkers. And just as at the switch-points of a railway the track

must be most carefully laid, to avoid an accident when the train passes over them, so we must be careful about the fundamental distinctions we are now considering.

There is more in a direct exchange than I have said. Before any commodity can be exchanged for any other commodity, agreement must be reached in regard to their relative exchange-value. It is not enough to say that, when a direct exchange takes place, commodity A is exchanged for commodity B; what happens is that X commodity A is exchanged for Y commodity B, X and Y being quantities of equal exchange-value.

When a form of currency is used, the character of the transaction still remains the same, but the method of expressing X and Y alters according to the kind of currency used. If a commodity, C, is used as currency a certain quantity of commodity A is first exchanged for a certain quantity of commodity C; this quantity of commodity C is then exchanged for a certain quantity of commodity B. To put the matter in another way, X commodity A is first exchanged for Z commodity C; then the previous owner of X commodity A exchanges Z commodity C for Y commodity B.

The same thing occurs when metal coins are used as currency. X commodity A is first exchanged for Z metal coins; then the previous owner of commodity A exchanges Z metal coins for Y commodity B. In each case the function of Z is to express and measure the exchange-value of commodities that change hands.

When cheques are used as currency the character of the transaction does not alter, but there is an important difference in the object served by the function of Z. X commodity A is first exchanged for a written cheque. The function of the cheque is that which is performed under the other two systems by commodity C or metal coins. The function of Z is performed by the figures written on the cheque; these figures express and measure the exchange-value of the commodity that changes hands. The cheque is currency; the figures are money.

As I pointed out in the preceding chapter, orthodox economists always use the words "currency" and "money" as if they were synonymous. In my submission that is an error, the origin of which is plain. When a commodity-currency or a metal-currency is used, the selected object acts as the medium of exchange; the amount of it that changes hands expresses and measures the value of the

exchanged commodities. Thus the same object or objects serves two functions. The functions are distinct, but, when a commodity-currency or a metal-currency is used, they are performed by the same object, which can thus be called currency or money at will. And for this reason orthodox economists, who base their conclusions almost entirely on a study of metal-using peoples, always identify currency and money. But when cheques are used as currency the functions are seen to be separated, and the difference between currency and money is at once apparent. The written cheque acts as the medium by means of which the commodities are exchanged; that is the function of currency. The figures on the cheque state and measure the exchange-value of the exchanged commodities; that is the function of money.

Currency and money are not the same thing, and it is surprising that the difference between them has not been noticed before. Orthodox economists say that money is a medium of exchange and a measure and standard of value. But on the face of it, is there not something odd about an object that is alleged to act at the same time as a *medium* and a *measure*? The threefold definition of money is not acceptable. Money never acts, and has never acted, as the medium of exchange; the idea of its doing so only exists in our minds because our fathers happened to use a metal as currency. Under those circumstances a quantity of the metal used as currency also performs the function of money; thus when a metal is used as currency it performs the function of both money and currency. For this reason, and for this reason alone, have currency and money been identified and money credited with the performance of currency's function. When a cheque-currency is used the separate functions are performed by separate things, and the difference between currency and money is plain.

Do any of us doubt that the figures written on our cheques are money? We cannot believe a man if he says that money is the medium of exchange. Currency is the medium of exchange; money simply expresses the exchange-value of commodities that are being offered for or given in exchange.[1]

[1] Compare C. Gide, *Principles of Political Economy*, trans. E. F. Row, p. 55: "Money is only a common measure of all exchange values: it is nothing more than that, but that is a great deal."

Aristotle, I think, would have agreed. He says (*Pol.* i. 10) that money was devised, not as a medium of exchange but "for the sake of exchange," which is a

THE FUNCTION OF MONEY

The expression and measurement of exchange-value is the only function that money performs; any other purpose it may serve is derivative from this source. Thus money is used to denote price. But price, unless it is the same as exchange-value, is merely a personal assessment that a man places on an object he happens to possess. Many objects, such as a second-hand motor car or a horse at a country fair, have prices, but they are not commodities till someone has agreed to purchase them. Till then, they have no exchange-value. If, however, someone agrees to pay a price for them, they at once have an exchange-value, and the money paid for them, whether it is the same as the original price or not, is not price but exchange-value expressed in terms of money.

This holds good everywhere at all times. I am aware that in our society the exchange-value of many necessary commodities is *not* a matter of agreement but forced upon purchasers by vendors in a position to dictate price. But this does not alter the truth of what I have said. Price, unless it is the same as exchange-value, does not enter into the discussion of economics.

The significance of money being a convenient method of stating and measuring exchange-value should not be lost. Consider a bridge. Some men say that a bridge cannot be built without money. Hundreds of bridges have been built by uncivilized peoples who have never used or heard of money. To build a bridge, material, and human energy alone are required. The function of money is to state and measure the exchange-value of a bridge that has already been built.

Again, consider houses. In our society thousands and thousands of persons are living in broken-down houses, and the publicists who say that a bridge cannot be built without money also say that new houses cannot be built without money. But every year millions of houses are built by uncivilized peoples who have never used and

different matter. In *Eth.* v. 5, he declares that men invented money for the purpose of *comparing* the value of things. True, he also says that money comes to be a kind of medium, but the meaning of this passage is uncertain, and he may refer to the mediums used in comparisons. Moreover, he adds that money came in "to measure all things," for example how many shoes are equivalent to a house. Nowhere in Aristotle's writing do I find any support for the orthodox view that money is the medium of exchange.

hardly ever heard of money. To build a house, raw material and human energy alone are required. Money is merely a convenient means of stating and measuring the exchange-value of a house that has already been built.

But, though bridges and houses can be built without money, no man or group of men in a currency-using society can come into the possession of a bridge or a house unless he can transfer to its producers the money that expresses its exchange-value. Money is vital to the possession but not to the production of a bridge.

From the performance of its primary function, the expression and measurement of exchange-value, money derives a secondary function, that of expressing and measuring purchasing-power.

When commodities are directly exchanged a man receives in return for what he has produced or helped to produce, commodities of the same exchange-value. In other words, his production of a commodity gives him a certain amount of purchasing-power, and the extent of his purchasing-power depends on, and is a direct reflection of, the exchange-value of what he has produced, or helped to produce.

When money is used the nature of the transaction does not alter; there is merely an extra wheel in the machinery. In return for what he has produced, or helped to produce, a man does not receive a direct supply of other commodities but a supply of money. This money states and measures the exchange-value of what he has produced and also the exchange-value of what he is entitled to receive in return. In other words, it states the extent of his purchasing-power. This purchasing-power is not a different thing from exchange-value; it is the same thing. Money states and measures the exchange-value of commodities that have been produced; by derivation it also states and measures the purchasing-power of producers. But that is only because it states and measures exchange-value. Money has only one function; any other purpose it may serve is derived from this source.

Money is not necessary to men; it is merely a convenient device. Just as currency only exists in order that commodities may be exchanged more conveniently, so money only exists that their exchange-value may be compared more easily. Commodities can be exchanged without currency and their exchange-value compared without money. Purchasing-power can also exist without

money. Money is merely a human device to assist the living of human life.

Some economists, perhaps, forget this; for they are apt to speak as if commodities and money were like hens and eggs, producing one another. True, money often helps to produce commodities, but commodities and money are not like hens and eggs. There is no doubt which came first; commodities did. Money is merely a convenient device for stating and measuring their exchange-value.

Some men try to frighten us by pointing out that we spend much money, say X million pounds, on drink, tobacco, or some other such thing. Actually these commodities change hands in the normal course of commodity-exchange, but the publicists to whom I refer always speak as if the money was somehow wasted and, having been spent, disappeared. Let it be said, then, that when money is spent it is merely exchanged. The purchasing-power it expresses does not disappear, it is transferred to another person or persons. When X million pounds are spent on beer all that happens is that such an amount of purchasing-power is given in exchange for beer.[1] The money is transferred to the beer-producers in return for the commodity (beer) they have produced, and, when the transaction is complete, the beer-producers possess X million pounds of purchasing-power, which represents the exchange-value of the beer they have produced and exchanged. If the money was not exchanged for beer it would have to be exchanged for something else; it has no value in itself. If it was exchanged for Bibles instead of for beer, the purchasing-power it represents would be transferred to the University Presses in return for the commodity (Bibles) they had produced. In that case more human energy would have to be put into the production of Bibles and less into the production of beer. But an economist, as such, does not mind much what money is exchanged for. Whatever it is, the money is not lost; it is merely transferred. The process of commodity-exchange consists in the continual receipt and transfer of purchasing-power, which is a reflection of the exchange-value of what has been produced. Money is a convenient device for expressing this exchange-value.

[1] According to C. B. Wilson, *Great Britain's Drink Bill, 1934*, the figure was only £229,029,000, an increase of 1·8 per cent over 1933. This means an average adult expenditure (assuming there were 30½ million persons over twenty years of age) of about £7 10s., or under 3s. a week, that is half a bottle of cheap claret or five pints of beer a week.

There is a variation of the "disappearance" cry.

In our society now direct taxation of private citizens is heavy, and some publicists, disliking it and, seeking every argument against it, speak as if the money paid in direct taxes was lost. But this money behaves like any other money. When direct taxes are paid all that happens is that money is transferred under compulsion from one group of persons to another group. The amount of money now paid in income-tax is approximately equal to the amount paid for the management and service of the national debt, each being about £230,000,000.[1] None of this money is lost, and most of it remains in our own country. What happens is that the law insists on its transfer from the taxpayers to those who subscribed, or whose fathers, ancestors, or predecessors subscribed, to government loans, mostly war loans. Far from disappearing, the money continues to circulate freely. The only thing is that the law changes the identity of those that control the manner and direction of its circulation.

Our politicians sometimes declare that some of our economic difficulties arise from a situation they describe as "money lying idle" in our deposit-banks. Such declarations reveal a misunderstanding of what money is. Money is a convenient device for expressing exchange-value; it has no other function. From its performance of this function it derives the power of expressing the extent of a man's purchasing-power. If it is expressing either exchange-value or purchasing-power (which are really the same thing) money is doing all the work for which it exists and therefore can never be idle.

The truth is that the phrase "money lying idle" is a relic of our metal-using days. It could have no meaning except in a society with a deposit-banking system. When one of the old goldsmiths received metal on deposit he used to hire it out to other men who paid him for the use of it, and the metal earned a profit for him. If he did not lend so much as he was able to, some of the metal was idle in the sense that it was not earning any profit, and in this manner, since the metal performed the function of money, there grew up the notion that it was "bad" for money to lie idle. The word "bad" in that context meant that profit was being lost, and when our poli-

[1] In 1934–5 the exact figures were: income-tax, £229,214,963; interest on and management of the national debt, £211,657,232. In 1935–6: income-tax, £237,362,332; interest on and management of the national debt, £211,533,776.

ticians speak about money lying idle they are merely repeating the old adage of the goldsmiths.

When our deposit-bankers use the phrase, which is very hard worked, they refer to money they are not hiring out, for most of their mental habits are those of the old goldsmiths. When cheques are used as currency, and the economic system is adjusted to its use, money can never lie idle.

Many other men besides politicians and deposit-bankers use the phrase "money lying idle," but they mean a different thing by it. A well-to-do person probably means that he is not receiving usury on that money; we shall consider this custom later. In the mouths of ordinary publicists "money lying idle" signifies that people are failing to make immediate use of their purchasing-power. The publicists to whom I now refer regret this habit, which they call anti-social, and there can be no doubt that in our own society it does handicap the process of commodity-exchange. But if a man does not wish to receive the immediate supply of commodities to which his possession of purchasing-power entitles him, that is surely his own affair; and my submission is that a society is unintelligently organized if it permits its economic life to be adversely affected by such a circumstance. At any rate we must see that in the Hopousian system no handicaps are imposed on those who wish to produce and to exchange commodities by the behaviour of those who choose to postpone till a later date the purchase of the commodities to which their possession of purchasing-power entitles them.

The relation that exists between the amount of available purchasing-power and the amount of commodities being exchanged is not always appreciated. Thus even some economists tell us that the extent to which commodities can be produced and exchanged depends on the amount of available money. This opinion seems to invert the truth. The total amount of possible exchanges is certainly limited by the total amount of available purchasing-power, but the amount of available purchasing-power is, in the nature of things, only a reflection of the value of the commodities that have been produced and exchanged. So, in the nature of things, the extent to which commodities can be exchanged does not depend on the amount of available money; the contrary is true; the amount of available money depends on the extent to which commodities are

produced and exchanged. If this state of affairs does not exist, you may be sure that the nature of things is being contradicted somewhere.

MONEY AS A SYMBOL

Such comments as these might be extended almost indefinitely, but they would, I fear, become merely destructive if I were to increase their number. In making them I have only one aim, namely, to clarify the subject about which we are talking. Nowadays our own economic difficulties are so great that men write a great deal about money; but the standard of thought is not always high, and the pity is that the plain man is apt to believe what the non-thinking writers say. Deposit-bankers too must bear some of the responsibility for the woolly nature of much contemporary thought about money.

Thus some deposit-bankers say that their task is to provide a safe place where their fellow-citizens can keep their money, and if you go into the provinces you will meet a large number of apparently educated persons who do not like to keep their bank-account in a building that does not look safe. Some of them will even transfer their account from an old building belonging to one banking company to a new one erected by another banking company; for, they think, their money will be safer there. They behave in this manner because they still think of money as if it were metal, or at any rate as something concrete; and there can be no doubt that, when a deposit-banker speaks of his bank as being a safe place to keep money in, he encourages such lamentable ignorance. Indeed, it would hardly be an exaggeration to say that even some employees of our banking companies think of money as something metallic and hard instead of as an expression of purchasing-power.

When cheques are used as currency money is simply a figure made by a pen, and the only place where money can be kept is in a book. It is no part of my purpose to submit for consideration any general theory of Money; so I do no more than note what money is when cheques are used as currency. I have no wish to make any absolute statement at all. The point is that in Hopousia, where a cheque-currency will be used, money will be a figure and nothing more.

In a society that uses a commodity like salt as currency, salt

performs the function of money; and, so far as that society is concerned, salt is money and money salt. In a society that uses metal coins as currency, the metal coins perform the function of money, and, so far as that society is concerned, metal coins are money and money is metal coinage. In a society that uses a cheque-currency, the figures written on the cheques and in the bank-ledgers perform the function of money; thus, so far as that society is concerned, the figures are money and money is nothing but a figure on a piece of paper.[1]

Now figures are symbols. So far as the Hopousians are concerned, therefore, money may be defined as a symbol that states and measures the exchange-value of commodities.

There is much more in it than this, of course. For example, if money measures something there must be a unit of measurement, and we must inquire closely what the unit is and whence it comes. But there is a lot of ground to be covered before we get so far as that; and for the present I am content to record the conclusion that money is a symbol that states and measures exchange-value. We may not yet assume that we know anything else about it than that.

MONEY MARKETS

When a commodity is used as currency, and therefore also as money, money can be bought and sold; and among some uncivilized

[1] Hartley Withers is one of the few writers who have appreciated the significance of the revolution created by the introduction of cheque-currency. In the study of money, therefore, his *The Meaning of Money* has a greater value than most economic text-books.

A. Marshall, *Principles of Economics*, pp. 61–2, has very little to say and seems to regard gold and silver as the only forms of currency for "civilized countries" to use. Though C. Gide, *Principles of Political Economy*, trans. E. F. Row, pp. 55 ff, recognizes that money is only a measure of value, he usually speaks of it as a commodity. True, he admits that "this measure of value leaves much to be desired," but he does not appear to have contemplated the use of any other form of currency than commodity-currency or metal coins. F. W. Taussig, *Principles of Economics*, vol. i, pp. 110, 432–3, regards money as the medium of exchange, and always, as is clear from op. cit., vol. i, pp. 232 ff, as a commodity. In his *Treatise on Money*, J. M. Keynes chiefly talks about currency. Moreover, he confuses a kind of money with a method of treating money, as when he classifies "managed money" with different kinds of currency. But Keynes says that when he had finished the writing of his book he no longer held the opinions with which he began it; so it is hardly profitable to make any comment on what he says in it.

peoples (the Gallas are an example) money-markets exist. But in those money-markets what is bought and sold is not money but the commodity that happens to perform the function of money (in the case of some Gallas, salt).

Money-markets also existed in some ancient civilizations and are still extant to-day; but currency changes have altered the nature of the business conducted there. To-day, as in most ancient civilizations, a money-market is not a market in the sense that a meat-market is a market; money is not offered for sale but for hire; and the price of money is not the price at which a commodity used as money can be purchased but the rate at which money can be hired.

The idea of hiring money is deeply rooted in our own economic system, and to this day different groups of men still compete with one another, as the old goldsmiths did, in offering money for hire at different prices. But these habits, like some others I have mentioned, are merely a relic of our metal-using days and can have no place in a society that uses a cheque-currency. In Hopousia there will be no such thing as a money-market. Where is the sense in buying and selling and offering for hire a symbol that can be made by a stroke of a pen?

Please do not be puzzled or prejudiced about this; there is nothing unorthodox about money being a penstroke. Let me quote what an orthodox economist has said about it. He is speaking of the way in which the Bank of England sometimes provides emergency money for the government.

"See what happens," he says, "when the Government has to pay dividends on War Loan and other Government stocks and finds itself in need of ten millions or so for the purpose. It borrows ten millions from the Bank of England, and the Bank of England gives a credit for this amount in its books, against which the Government draws its dividend warrants. But only a fraction of this amount is actually withdrawn. For the most part the warrants are paid into other banks to the credit of their customers who hold War Loan, and are paid in by them to the Bank of England to the credit of their balances with it. So that instead of making a great provision of cash, the Bank has only to set its clerks to work with their pens rather faster than usual, and the thing is done."[1]

In that passage it is not clear what Withers means by "cash." He

[1] Hartley Withers, *The Meaning of Money*, p. 188 f.

may mean metal-currency or token-currency or neither, he does not say. His uncertainty is typical of the economic half-way house in which we now live, using a cheque-currency almost exclusively but speaking and behaving as if we used a metal-currency. But if Withers speaks vaguely when he talks about "cash" he does at any rate make it quite clear that he does not suffer from any illusions about the nature of the money that the Bank of England sometimes issues for the Government. When a cheque-currency is used, money is only a penstroke. What we have to discover is how, when, where, and by whom the penstroke may be made.

THE ISSUE OF MONEY

There is no difficulty about the "how": in a cheque-using society the act of issuing money is simple. As every publisher knows, there is hardly any limit to the activity of pens, and in a cheque-using society the amount of potential money, like the amount of potential currency, may be said to be unlimited. What we have to discover is where, on whose authority, and when the pens shall bring money into existence.

The "where" is plain: the ledgers kept by the bank-clerks are the only possible places.

On whose authority? We cannot decide yet.

When? We will study this question first.

But it will be helpful, I think, if we first call to mind the conditions that the Hopousian money-system must fulfil.

It is the custom among monetary reformers to say that the amount of available money should accord with the economic needs of a society. By this they mean that enough money should always be available for the exchange of such commodities as the people wish to exchange.

We may safely accept the condition, for any other state of affairs would be foolish. Money is only a device invented for the convenience of men, and it is plainly silly if in the exchange of their commodities they are handicapped by the state of the money supply.

But let us realize this: we have no idea how many commodities the Hopousians will wish to exchange at any time, so we cannot

say how much money they will want. All we know is that the supply of it must never be less than they need.

The converse is also true: the amount of available money must never exceed their needs; for, if it did so, there would be more purchasing-power than would be warranted by the state of the production-and-exchange process. Then, according to the quantitative theory of money, the general price-level would rise, which would be contrary to the interests of the society. When the general price-level rises or falls there is a great deal of uncertainty, distress, and alarm which reduces both the quantity and quality of a society's energy. The Hopousians' money-system, therefore, must be such as to avoid any possibility of the money-supply exceeding the needs of the people.

That is the second condition the system must fulfil. And let us bear in mind that the commodity-exchange process is not a static but a dynamic thing. It is never the same for long, and we cannot tell when or by how much it is going to increase or decrease. Since the Hopousians will be, *ex definitione*, a most energetic people, it is possible that for the first two or three generations the total amount of commodity-exchange will increase; but this increase is not likely to take place in arithmetic progression. There may well be a decrease over a short period before there is another jump upwards again. Moreover, the rate of any increase or decrease, as well as its precise extent, is always likely to be irregular. To these changes the money-system must adjust itself immediately. Whatever the increase or decrease in commodity-production and commodity-exchange, the amount of money in existence must always be equal to and never exceed economic needs.

A third condition must be fulfilled. So far as my knowledge goes, this condition has never been laid down by reformers; but it will be vital to the Hopousians.

We have seen that in the nature of things the amount of a man's purchasing-power is a reflection of the exchange-value of the commodities he has produced or helped to produce. Now if the exchange-value of the commodities is reduced, or if the commodities become useless or get worn-out, then in the nature of things, the purchasing-power of their possessor lessens or disappears. The money-system of Hopousia, therefore, must be designed in such a way that, when the exchange-value of a commodity is reduced or disappears, the

money that expresses its value must be reduced in amount or cancelled.

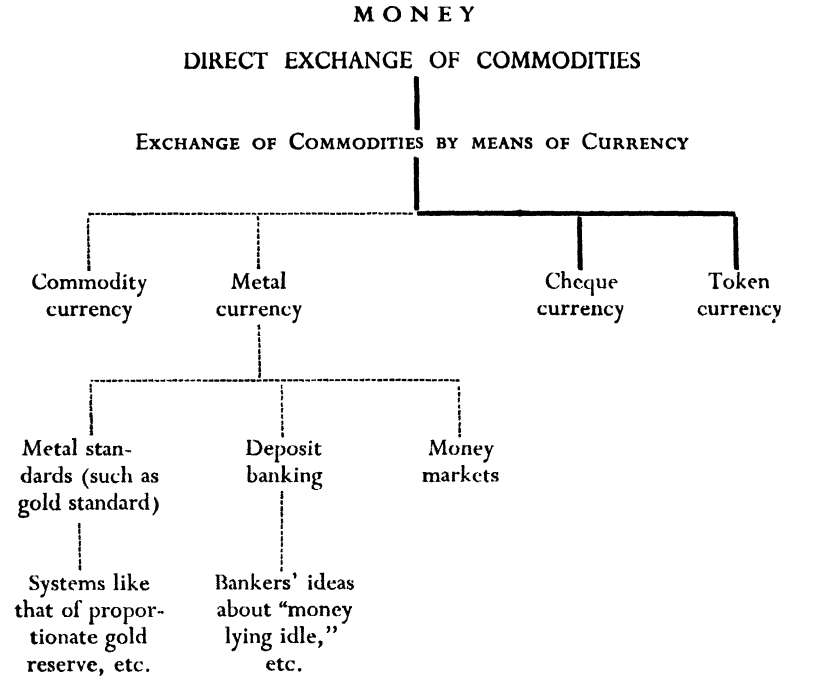
There is nothing remarkable about this; any other state of affairs would plainly be foolish. For if the purchasing-power did not become less or disappear the commodity-exchange process would be embarrassed in the same way as it would if the total amount of money in existence exceeded the total amount of commodities in existence. Indeed, if this third condition were not fulfilled, there would be only one way to avoid the embarrassment, namely, the society would have to regard the worn-out commodities as having the same exchange-value as they had when they were new. This would have three main results. First, the people would have to tolerate the continued use of the worn-out commodities however much they wanted to replace them. Secondly, the men who might be replacing the worn-out commodities would be compulsorily idle. Thirdly, a number of men would possess an amount of purchasing-power which did not represent exchange-value; thus the society would be compelled to carry a number of parasites whose purchasing-power would be wholly or partly fictitious and who could purchase without producing.

I am aware that in our society all these things happen, but, since the economic system of Hopousia is being specially designed to facilitate and to encourage the display of human energy, they cannot be allowed to happen there. The fulfilment of this third condition is as important as the fulfilment of the other two conditions.

I make no attempt to create such a money-system directly; I am simply going to continue my description of things. But if, after the economic system has been devised these three conditions are not fulfilled, the structure must be regarded as a failure.

It may be helpful if I try to clarify, by means of a diagram, the manner in which our thoughts are gradually being shifted on to non-orthodox lines.

The appended table is meant to show whence various habits arise, and also certain ideas, which, being based on different forms of currency, will not prevail in Hopousia.



---------- System discussed in economic text-books and by orthodox writers.

———— Hopousian system.

CHAPTER VIII

Four Methods of Commodity-Exchange

THE FIRST METHOD
THE SECOND METHOD
THE THIRD METHOD
NOTE ON THE THIRD METHOD
THE FOURTH METHOD
THE CONDITIONS OF MONEY-ISSUE

WE have to answer the question, when and on whose authority shall money be brought into existence in Hopousia? Money itself is merely a convenient device invented by men to state and measure the exchange-value of their commodities; derivatively, it also states and measures the purchasing-power possessed by those that have produced or helped to produce those commodities. But it must obviously come from somewhere, and in Hopousia that "somewhere" is certainly a pen. When a cheque-currency is used money is only a penstroke. The question is, therefore, "When and on whose authority shall the penstroke be made?"

Seeking an answer to this question, I propose to adopt the same method as before, and to begin by considering what happens when commodities are directly exchanged. It will be helpful if we take the case of a simple society, say a society with five economic groups.

May I emphasize again that a human society *always* consists of groups. The point is so important that, at the risk of overstatement, I will repeat what I have already said in Chapter IV.

We live in a rationalistic age, and the essential part of a rationalist's attitude towards life is that he himself is an individual. He tends to disregard the social forces that have made him what he is;

his individual temperament is the thing that impresses him most. The result is that he preserves an individualistic attitude towards everything, and is apt to say, unthinkingly, that a society is a mere collection of individuals (like himself).

Since we live in a rationalistic age, this idea is very common among us, but it is produced by a direct projection of the rationalist's temperament into his thought, and is a mistaken one. True, if we analyse a society into its final parts, we find nothing but males and females. But if we analyse a material substance into its final parts we find nothing but electrons and protons. Yet no man would say that a material substance is a mere collection of these things. In the make-up of a material substance the nature of its constituent parts is indeed important, but it is not more important than the way in which the parts are placed in relation to one another. A mere collection of electrons and protons is nothing and could never be anything. It has never existed and could never exist. If ever it happened, no whole would emerge; the mass would disintegrate at once. A material substance may consist finally of electrons and protons, but it is essentially a network of atomic groups, and its chemical properties depend in the first instance on the nature of the atoms that compose it. These atoms vary according to the number of electrons and protons in their nuclei and according to the number of electrons in orbit round the nuclei; and, to describe a material substance, we first need a formula to tell us what kind of atoms are there.

But structure is so important an item in any natural event that by itself this formula is not enough. Material substances that consist of the same kind of atoms vary greatly in their chemical properties; if the substance is to be correctly described, the formula must be accompanied by a diagrammatic representation of the way in which the atoms are placed in relation to one another. Nature is structure through and through. It does not matter what natural event we select for examination, whether it is a material substance, an organism, or any other thing; a knowledge of its constituent parts is of no value without a knowledge of its constitution.

A human society is a natural event like any other thing, and it is no more a mere collection of males and females than a piece of coal or a star is a mere collection of electrons and protons. A mere collection of individuals is nothing and could never be anything. It has

never existed and could never exist. If ever it chanced to happen no whole would emerge; the mass would disintegrate at once. Put a thousand males and a thousand females on an uninhabited island; you will find that before long these two thousand individuals will form themselves into one or more societies, each a network of human groups. They will behave like this because it is part of their inherent nature to do so; only under such conditions can human life be lived.

In a human society structure is as important as in any other natural event. To describe a human society as "persons in relation" is nonsense because such a description misrepresents the facts as they may be studied in human records. In trying to understand a human society, as in trying to understand a material substance, we must first know the kind of groups that compose it and then the way in which these groups are placed in relation to one another. Anything less than this is misleading and false.

The structure of any human society conforms to a single pattern. First the males and females are united into families, which, like atoms, vary in size and constitution. The families are then gathered together into larger units, clans, septs, *gentes*, *grosfamilie*. All these are *social groups*. The families are also banded together into territorial units, such as parishes, hamlets, villages, towns, cities, boroughs, and shires. These are *political groups*. And the persons that compose the families are also united in a third way; for the natural sympathy felt between men of the same calling urges them to form themselves into sects, companies, professions, unions, federations, and fraternities. For the purpose of study these subdivide according as they perform cultural services or produce material goods. The latter are *economic groups*. And the behaviour of the society depends, first, on the nature of the groups that compose it, and, secondly, on the way in which these groups are placed in relation to one another.

As the cultural process continues, fresh groups come into existence; others disappear; there is a constant flux. This is especially so in an energetic society, and the changes are specially noticeable in the economic groups. Thus there is no union of masons if stone is not worked; no association of wireless manufacturers till men know how to use wireless waves; and so on. Moreover, different individuals compose the different groups from time to time, and the

character of the social and political groups continually affects the character of the economic groups. This is also influenced by the nature of the economic system the society chooses to adopt. But none of this change and interaction affects the fundamental nature of the society, which always remains the same. A human society is not a collection of individuals; it is a network of human groups of various and varying kinds.

When we want to understand the nature of human affairs, and to discover the forces that control human conduct, we must always think in terms of human groups.

Imagine, then, that a small simple society, with five economic groups, lies in front of you. You are looking at it as cold-bloodedly as a biologist dissecting a beetle. The males and females that compose the economic groups are also members of social and political groups, but, beyond acknowledging the existence of these groups, we need not consider them now. Nor does the size of the groups matter; they are simply groups.

In this little society there is neither currency nor money; commodities are directly exchanged, each one for every other one, separately. The people live on corn, potatoes, goats' meat and goats' milk. For each commodity there is only one group of producers. Group A produces corn; group B grows potatoes and makes machinery; group C consists of weavers; group D goat-herds; group E house-builders.

To make the society complete, we must add another group, F. In every society there is always some definite person to tend the sick, bury the dead, and instruct the young; the identity of these persons varies according to the society, but cultural services have to be performed by someone and we may say that the members of group F do these things. Group F is not important for our original purpose; it is merely mentioned so that the society may be a complete whole.

Our object is, by describing the different ways in which the members of the five economic groups can exchange their commodities, to discover the most suitable system for the Hopousians.

We will suppose that our little society is autonomous and self-supporting; and we will further suppose that an increase in energy suddenly occurs in the society. The Hopousians are *ex definitione* an extremely energetic people, and we have to construct for them an

economic system to fit any possible increase in their energy. When such an increase takes place men do not always begin to produce more elaborate editions of their old commodities; they sometimes begin to produce different ones. We must cater for both eventualities.

We will assume, then, that group E, the builders, want to produce more elaborate houses which the other members of the society want to possess; and that group B begin to invent more effective machinery for group A, the corn-growers, and group C, the weavers.

Good. But the exigencies of language now introduce a complication. Group is a singular word, but the members of it are plural, and to speak in terms of groups is to incur an awkwardness in grammar and pronouns. To overcome this difficulty and to simplify the tale, I propose to speak not of group B, but of B, an individual man, a member of group B. I shall say "he," not "it" or "they," as I should have to do if I spoke in terms of groups. This will not confuse us if we remember that the person I call A is a member of economic group A and that everything said of him also applies to every other member of that group.

B, then is an energetic inventive person. He perceives that A is using a primitive kind of plough which merely scratches the soil, so that some of the corn, having no depth, withers away. A's harvest is thus considerably less than it might be, and B proceeds to cut down a tree on his land and to produce out of it a new and more effcient plough.

Having made the plough B brings it to A and asks him if he would like to have it. The proposal pleases A, who likes the look of the plough. The two men come to an agreement about the exchange-value of the plough in terms of corn; and I invite attention to the difference between, and the respective consequences of, the four different ways in which the business can be done.

I take the plough first, but I shall assume too that B has also invented a new kind of loom, which C would like to possess. We will also consider the way in which A, B, or C might acquire one of the new houses E wishes to build.

This will be important; for a house is wanted for its own sake, whereas a plough is only wanted because it helps to produce corn. Both are commodities, exchanged and exchangeable continually, but a house is produced for direct consumption and a plough as a

means of further production. In any economic discussion it is vital to preserve a clear distinction between these two kinds of commodities.

THE FIRST METHOD

The first method in which A can purchase the plough is by giving B the agreed amount of corn at once. But the trouble is that A has not enough corn in stock. Hitherto he has produced, in a good season, enough to satisfy what he regards as his ordinary needs, but he has not been able to produce more. In a bad season he has not been able to do even that; he has never had a surplus. So, if B will not let A have the plough unless A pays its full value at once, A is unable to be B's customer.

The effect on A's mind is interesting. The offer of the plough is more than a surprise to him; it is both a cosmological and an economic revolution. He has been accustomed to accept the hard conditions of his life as part of the miserable fate that the gods have imposed on men. Hesiod is his poet. It has certainly never occurred to him that the external conditions of human life are subject to human control. The idea of increasing the amount of his harvest by using a more efficient plough seems to suggest that the gods are not responsible for so much as he had thought. Previously he has always made his own ploughs in the way his father taught him. As soon as B's new plough is brought to his notice he sees that his old one is a poor kind of thing, and he cannot help dreaming of what his life would be like if he could possess it. He would be able to produce more corn; his children would have more bread to eat. There would even be a surplus after that, and perhaps C, the weaver, would be willing to work a bit harder and to purchase some of the surplus corn with the additional cloth he would then make. This would almost certainly be the case if C could have the new loom that has been offered to him on the same terms as those on which the new plough has been offered to A. The result would be that all three families would be better clothed and better fed; for B would have the use of the extra purchasing-power that the production of the plough and the loom gave him. It seems that everyone's temper, health, and looks would improve. Some of the uprising generation might even have time for other cultural activities.

It looks to day-dreaming A as if the life of the whole community would be revolutionized, and I think we can conclude that, as he turns away to scratch the soil with the ridiculous instrument that once seemed the best possible kind of plough, he feels greatly dissatisfied.

It is not as if his desire for the plough was a mere desire to live riotously. The question of self-indulgence does not arise. A is quite ready to work even harder than he has previously done if by that means he can obtain the plough, which, incidentally, is of no use to anyone else. C's position is the same. He would like to have the new loom and is ready to work harder that he may have it; but apparently some human circumstance is preventing both of them from having what they want and are willing to work for. Neither the loom nor the plough is wanted for its own sake but because it will increase production. The whole community would benefit materially and probably culturally too. Yet nothing can happen. The want is there; the thing to satisfy the want is there; yet the commodities cannot change hands. Previously both A and C, though mentally inert, were content, but now they grow bitter. More efficient methods of production exist; they are willing to pay the price of the machinery; but apparently they cannot have it.

That is the position of A and C. B's position is that none except A uses ploughs; so, if A does not buy the new plough, B's energy in producing it has been wasted. It is the same with the new loom. If C does not take it the energy displayed in producing it has been wasted. Moreover, having failed to find a purchaser for the first new thing he has made, B is certainly not going to make any more new things; so in future he must be idle when he would like to be making ploughs and looms which other men desire to have. Under such circumstances he too, I think, is likely to grow dissatisfied with the conditions of his life and to harbour such thoughts as come to us when, through no fault of our own, our creative efforts are neutralized. Being human, B may even feel like destroying the new machines.

Thus the first method leads to mutual dissatisfaction and stagnation; both commodity-production and commodity-exchange are handicapped. A and C, willing men, are deprived of commodities they would like to have and are willing to work harder for; B, a resourceful, energetic man, sees that his energies are wasted and

that in future he will have to gaze into the fire or stand at the cross-roads when he might be producing ploughs and looms.

Expressed in terms of groups, the method seems even more unsatisfactory; for it interferes with what would be the natural structure of the society. The farmers, group A, want ploughs; group B, the men who would like to produce the ploughs, are keen to supply the need; but, if the members of group B will never deliver a plough till the members of group A give them its full value in corn, none can ever buy a plough, and the efforts of group B come to nothing. In other words, in the natural course of events a group of plough-producers would have emerged, to play their part in the social, political, and economic life of the society; but if these men cannot find a market for their ploughs the group can never come into existence. At any rate it disintegrates as soon as it has been formed.

It is the same with the manufacturers of looms. The weavers want new looms, but unless the producers of the looms are prepared to do business on some other basis than this, no weaver can purchase a loom; so no group of loom manufacturers arises as it would otherwise do and as it wants to do.

Expressed in terms of money, the transaction has a familiar character. The members of group A and group C want new machinery, but the members of group B, who make the machinery, will not deliver till the other men have paid the full cash value of the commodity. The members of groups A and C have not enough money in the bank-ledgers; so they cannot make the purchase, though they want the machinery very much and are ready to work harder in order to possess it. Moreover, the possession of it would make it easier to produce the surplus corn and cloth which alone will pay for it.

I have no doubt that in Hopousia the transactions of daily life will be effected on a strictly cash basis, but the money-system must obviously be based on different principles. We may say that if an energetic society, which is not expanding into other territory, chooses to arrange its affairs on the basis I have described, it can never succeed in increasing the total amount of its internal production and exchange.

THE SECOND METHOD

The second method in which A can purchase the plough is a variation of the first and need not detain us long. Its economic results are much the same, but its psychological results are different, and these are the only things that we need to notice about it.

According to the second method, A agrees to purchase the plough and asks B to keep it in good order while he produces the necessary corn. A says that though he cannot afford to buy the plough at once he will save a little corn every season and will soon have enough. B consents, and A makes his plans. He introduces strict economy into his home and tells his wife and children that they must save every possible grain of corn. They must even go short of bread, that the new plough may sooner be possessed. It would, of course, be much easier for A to produce the necessary surplus if meanwhile he could have the use of the plough; and to his wife's way of thinking (the female of the species is essentially practical in her outlook) he might well have it. After all, it is there in B's garden doing nothing. But the immediate delivery of the plough does not come within the terms of the contract, and after the day's work is done A and his wife are likely to pay a visit to B's house and, looking over the wall, gaze longingly at the idle plough of which they now dream every hour. The harassed woman is sadly puzzled at the situation, but, mother-wise, she tries to forget it and to concentrate her attention on keeping her man in as cheerful mood as possible. This is not easy. Her children are not being so well fed and clothed as they might be, and A, from being a care-free if unintelligent man, is rapidly becoming a stern, unsmiling one.

The same situation arises in C's home. He also enforces strict economy; his family too are not so well fed and clothed as they might be. The new loom is there and might be producing more cloth than C can produce with his old one; but the only way in which, according to this second method of commodity-exchange, C can obtain possession of it is by compelling his wife and children to sacrifice part of their welfare. As C does his daily work his face is grim; the repression of his desire makes him dour; and his wife feels like A's wife feels, namely that the strain of living with another creature is great. The world is

incomprehensible; they were happier before the new machines were made.

As for A and C, their whole attitude towards life changes. They have heard that the Galilean urged his followers to take no thought for the morrow; yet that is all they seem to do now. And to justify themselves in their own sight they promote thrift to a high position in the ethical scale. Their only comfort is that, though poor and distracted, they are at any rate virtuous, and they tell their growing sons that in this life a man must work hard and think of the morrow. Material blessings, they say, are reserved for those who are thrifty and frugal. A man must therefore husband his resources with care. Only thus can he flourish.

In their bitter blindness they now reject the idea that their present circumstances may be subject to human control. Seeking some philosophy to comfort themselves, they are even inclined to ascribe the new conditions of their lives to the inherent nature of things. The result is that their children spend their earliest and most impressionable years in a different environment from the one they would have experienced if the old way of life had continued. We may even suspect that when they are grown up they will hate the very sound of the word "thrift," which represents the idea responsible for the strain and misery their parents suffered.

Summarily, this is what happens in the homes of A and C when the second method is adopted. What about B? It seems that while A is producing the extra corn and C weaving the extra cloth, he must be compulsorily idle. Being an energetic man he thinks he sees how to make still finer machines, and he is eager to try, but what is the use of making them before the first lot have been sold? This second method produces the same economic results as the first. A and C still have to work with inferior instruments; B is unable to make full use of his energy. In each case commodity-production and commodity-exchange are severely handicapped.

Expressed in terms of money, the method assumes a familiar character. The men have to save enough money till they can purchase what they want. Thrift becomes a virtue; and the finer the citizen the more he is resolved to practise it; for the more he is resolved to be virtuous. The lives of wives and children are warped in a manner familiar to all students of middle-class history. Uprising generations find the tradition burdensome, and, not realizing

its economic origin, begin to discard the whole tradition of which thrift forms a newly added part.

It is plain that this second method is useless for our purpose. No doubt in their private lives the Hopousians will wish to make some personal sacrifices that they may purchase odd trinkets on which they have set their hearts. But this only means that in their private lives they will refrain from purchasing some things they want in order that they may possess other things they want more. As the basis of the economic system and as the way in which producers will obtain the means whereby they produce their commodities, the Hopousians will obviously have to have a more satisfactory system than this.

THE THIRD METHOD

The third method in which A and C can purchase the plough and the loom respectively is more complicated. To appreciate its economic and psychological results we must study its effects over at least three generations.

Let us suppose that D, the goat-herd, has just had a few good seasons. Normally he uses his goats as commodities and exchanges them directly for corn, potatoes, and woven cloth. Now, having more goats than usual, he is able, if he wishes, to reduce the exchange-value of his goats. If he were to do so he would be sharing his good fortune with his fellow-citizens by giving them more milk and flesh in exchange for what they give him. But D does not do this. Instead, he conceives a plan which, it seems to him, will be helpful to A, B, and C, and profitable to himself. Hearing of the difficulties A and C are experiencing, he offers to let each of them have 100 goats with which to purchase the new machine. In exchange for these goats, he says, he does not want to receive an immediate supply of commodities; all he asks is that A and C should recompense him for the risk he runs and reimburse him for the loss he sustains. When a man keeps goats, he says, he receives from them a regular supply of milk and kids; these kids grow up and yield more milk and kids, which in their turn produce more milk and kids, and so on. He will be pleased to help A and C by letting them have 100 goats each so that they can purchase the machines; but, until they can return the loan in full, each must send him a small annual supply

of what they themselves produce to take place of what he would undoubtedly have if he kept the goats himself. He estimates this annual value at 20 goats for each 100 goats lent.

The fallacy in D's argument is obvious, but we should not place too much emphasis on it. The life of a goat, like that of a man, is precarious, and it is certainly rash to think that the 200 goats will produce their progeny with the mathematical precision that D supposes. On the other hand there is no reason to think that the goats will fail to breed, and there is much logical justification for D's claim. The bargain also takes it for granted that a large proportion of the progeny will be female, and this is by no means certain. Again, on the other hand, there is no reason to think that fewer females will be born of these 200 goats than of other goats, and D's estimate cannot be disproved. At all events A and C are favourably impressed by the proposal, which, though new to them, opens up many attractive possibilities. They see no other way to obtain the machines, and they are grateful to D for his consideration. B expresses his readiness to accept 100 goats for the plough and 100 for the loom, and the business is done.

Let us examine each man's position.

When A gets to work with the new plough the amount of his harvest increases. He also has the satisfaction of working with a superior machine and of seeing a greater result from his labour. He easily produces each year the additional amount of corn required to pay D. We may suppose that he also has a surplus after that; he can therefore give his family more bread to eat. Spare corn may even be available for additional purchases of woven cloth. D does not press him to repay the 100 goats; D is quite content with the existing arrangement. He receives each year from A a regular supply of corn equal in value to 20 goats; this corn satisfies most of his corn-wants. For the corn he gives nothing in exchange, and the goats he used to give in exchange for corn are now available for other purchases. But we may conjecture that D does not use them for this purpose, and, since the goats are not so used, we may suppose that his wife is a submissive person in whose eyes everything her husband does is right. She readily agrees that they already have enough for their needs; so the goats that are no longer spent on corn go to swell the size of the herds.

C is in the same position as A. The new loom enables him to

produce more woven cloth than he did with his old one; so he also easily manages to pay each year to D the cloth that represents the risk and the loss incurred by D when he lent C the 100 goats with which to purchase the loom. There is even a surplus after that, and with this surplus C can purchase from A some of the extra corn A now produces. The result is that the families of both A and C are better fed and clothed than they were before the plough and the loom were produced and exchanged. And this is naturally so; for the total amount of commodity-production and commodity-exchange has increased.

D does not press C, any more than he presses A, to return the original loan. He is only too happy to receive each year a supply of woven cloth for which he gives nothing in exchange. He is now able to clothe as well as to feed his family at no cost to himself, and his wealth, represented by the size of his herds, increases.

B also is pleased with the situation in which he finds himself. He has the satisfaction that comes to all craftsmen who see their productions put to good use; he also possesses the extra wealth his productions give him. Moreover, he has been much impressed by the manner of D's bargain, and he takes advantage of the experience. When he receives the goats from A and C he goes to D and offers to give the goats back on the same terms as those which D made with A and C. In other words, he offers to deposit the goats with D on condition that D sends him each year a supply of milk and flesh. D is too good a business man either to accept or to refuse this offer. He sees what a strong position he is in and acts accordingly. When he lent the goats to A and C he was doing them a favour; and he did not minimize either the risk he ran or the loss he sustained. When B offers to let him have the goats back again the position is different. If D had asked B to lend him the goats, B would have been justified in demanding the same reward as D demanded from A and C; but D is not asking for a loan. On the contrary, he is being asked for a favour again. He therefore points out that when he helped A and C he did so out of good fellowship. It was possible that both A and C might fail to recompense him for the losses he incurred by letting them have the goats, and he himself ran a great risk. He would rejoice if he could also be of service to B, but he cannot possibly undertake to give B each year so much as A and C were asked to give. In handing the goats over to D, B is running no risk at all. D says he

is willing to help B by taking the goats back; he will even consent to give B a small amount of milk and flesh each year; but he cannot give him much. Goats are troublesome things to keep; you never know what they will do or how they will breed. If the 200 goats could be kept separate from the others D would be able to tell what they produced; he would then be ready to take some of the produce in return for the services he rendered and to hand the remainder over to B. But it is not possible to keep B's goats separate from his own, and all D can do is to offer B, in return for the deposit of the goats, an annual amount of milk and flesh equal in value to, say, 10 goats.

B sees the force of D's arguments, and, not wanting to look after the goats himself, hands them back to their original owner.

B thus begins to receive from D each year a small supply of milk and flesh for which he gives nothing in exchange. The result is that he need not produce so many potatoes now. Hitherto he has had to produce enough potatoes to purchase all his requirements, but some of these are now met for nothing, so he at once begins to spend less time on the production of potatoes and more time on the production of machinery, which he greatly prefers. Being a kindly person he tells A's younger son about this, and suggests that the lad should take over some of the potato-growing. With B's machine A is able to produce more corn with less labour; so the help of his sons is not now a matter of so great urgency as once it was; and the younger lad, restless in his comparative idleness, is greatly pleased to accept B's kind offer. He therefore begins to grow potatoes on a part of B's land.

In return for the use of the land the lad gives B a part of his produce. B thus secures another small supply of commodities for which he gives no commodities in exchange.

This third method seems to have many advantages. The plough and the loom change hands; commodity-production and commodity-exchange proceed apace; neither seems handicapped; and we shall do well to follow the little society as it proceeds along its new path.

To begin with, at any rate, the path is a rosy one. A and C are producing more with less labour. B has sold the first machines he built and is hard at work on the production of new ones. He receives each year from D a supply of milk and flesh equal in value to 10

goats; he also receives a supply of potatoes from A's younger son. He himself still produces some potatoes, but he does not produce so many as he did before, for he need not give so many in exchange for his milk and flesh. D is most happy. All his goats are still under his own control, and he still enjoys the whole of their produce. True, he has to send B each year a supply of milk and flesh equal in value to 10 goats; but he receives from A and C a supply of corn and woven cloth to the value of 40 goats. The net result is that he is 30 goats a year better off. A and C, the source of this pleasant profit, are also better off.

I draw attention to the fact that the goats need never have been moved at all. Actually A and C each went to D, took 100 goats, and drove them to B who drove them back again to D. However, this third method of commodity-exchange has greatly assisted the society. The display of human energy is no longer handicapped; everyone is pleased, and so pragmatic a test is not to be despised. At the same time there is a small cloud in the sunny sky, and we must plainly inquire further before we conclude that this method will suit the Hopousians. The cloud in the sky is the fact that B and D now receive a supply of commodities in exchange for which they do not give other commodities. In other words, they possess an amount of purchasing-power which does not reflect exchange-value. True, both are still producing something, and the society as a whole is much better off. But the nature of things is being slightly contradicted, and we must take care. We must remember that we have to create an economic system suitable for a society that wishes to display the greatest possible amount of energy. If we allow some men to have an income in return for which they produce nothing, other men will have to go short. Not receiving their due reward, these might cease to display their greatest energy, which would mean that the economic system was defeating the purpose for which it was designed.

Till now, however, except for this purchasing-power possessed by B and D, all seems satisfactory, and we may well continue our investigations.

I think it can be assumed that these men, as they get accustomed to their new life, will soon begin to want their houses rebuilt. Let us suppose, then, that D pleases his accommodating wife by ordering E to build him a new house, the price to be 100 goats.

Now D, as we have seen, has been much impressed by the happy nature of his bargain with B; so when he has given E the 100 goats for the new house, he offers to take them back again and, in return, to send E each year a supply of milk and flesh to the value of 5 goats. D thinks that A, B, and C will be wanting houses soon, and that these goats may be useful to them. The rate of the return he offers E is the same as that accepted by B.

E is by no means shocked that D should offer to send him only the equivalent of 5 goats a year. On the contrary, he is much impressed by what seems to be D's generosity. Till recently E had regarded goats merely as commodities to be passed from one person to another in the ordinary way of commodity-exchange. True, they always found their way back to D in the end, but that was simply because he was the only goat-herd in the place. No owner of them had ever thought of asking for a share in the goats' undoubted progeny. This idea only came into existence when A and C purchased their new machinery. E knows that A and C now send to D an annual supply of commodities to the value of 20 goats each; but then D ran a great risk when he lent the goats. He says too that he sustained a great loss because he lost the progeny. Things do not appear to have worked out like that, for D still has the goats and possesses the whole of the progeny. E realizes that he cannot expect to receive so much on the goats D now asks him to deposit with him. In depositing the goats E runs no risk and incurs no loss; after all, the goats are only commodities, and on previous occasions there has been no question of any payment for the use of goats. On the whole D's offer seems quite reasonable and E accepts it.

So E now joins the ranks of those who are receiving a supply of commodities in return for no other commodities. On the other hand, he has produced a house for which he now possesses no commodity-equivalent. D's position has changed too. Till he ordered the new house he had, so to speak, an unearned income of 30 goats a year, but he now has to pay E 5 goats a year, so his unearned income is only 25 goats a year. On the other hand he has a new house. Something else has changed too. Somehow or other a house has ceased to be a commodity for which other commodities are given in direct exchange; it has become a thing for which an annual payment is made. Still, D is pleased and E is pleased and no one seems to suffer. Though we must hesitate before we condemn a

system that works so well, we seem to be getting farther and farther away from the fundamental truth that in the nature of things purchasing-power only exists in so far as it is a reflection of exchange-value. Perhaps we had better postpone any further comment till we have followed the society a little longer down its rosy path.

Let us suppose, then, that some years pass. Meantime, B has almost completed the manufacture of a still finer plough and a still finer loom. A and C and their eldest sons think much about these new machines. The older men are aware that the ones they originally purchased are getting worn out; but, since they have not yet returned the goats they originally borrowed to pay for them, they feel disinclined to consider the purchase of the new ones. True, D is not pressing them for the return of the loans; he is content if he receives the annual supply of corn and cloth they have to send him. He might even be ready to consider the making of another loan. But the old men do not relish the idea of getting further into debt, and they put the idea of the new machines out of their minds. In fact, they often feel they would like to economize at home so that they could pay back the original loans. But their families have no sympathy with the idea; they are now accustomed to a higher standard of living and do not see why they should be asked to make what seems an unnecessary sacrifice. They would even like to have such a fine new house as D has; to them their father seems a tired old man who has lost his nerve. See how well the economic system is working! If loans were returned the foundation on which the system is built would be undermined. Are not they all much happier than they were before the plough and the loom were purchased? The only suggestion that the young ones have to make is that the wheel of commodity-production and commodity-exchange should be made to revolve still faster by their ordering both a new house and the new machines.

A's younger son is specially emphatic in the expression of his opinions. He has left his father's fields to work in B's fields and is on the way to becoming an independent citizen. He feels that the idea of returning the original loan is a danger to his new position. He is now, he thinks, an indispensable cog in the economic machinery, responsible for part of the potato supply. How can his father have these old-fashioned qualms?

But A is not convinced; all he sees is that the plough is wearing out

and that he has a debt he cannot repay. This debt represents the exchange-value of the plough; so his position is that he has a debt that represents the value of a commodity that will soon cease to exist. To him there is something wrong in paying year after year for a thing that is no longer in existence.

A's uncertainty makes B restless; for there seems to be some danger of his not being able to find a customer for his new plough. Still, no one sees what can be done; so the economic life of the society goes on in the same way.

C is in the same position as A. He also would like to get out of D's debt, but his family also have got accustomed to a higher standard of living and resolutely oppose the idea of economizing in order to pay back the 100 goats. So C also puts the whole matter out of his mind. He feels unable to countenance either the purchase of the new loom or the ordering of the new house. It looks as if this third method of commodity-exchange is going to break down.

Its psychological results are also unexpected. For instance, C is worried to notice that his younger son, envious of the seemingly independent position occupied by A's younger son, is becoming unsettled.

All the old men now die, a little disillusioned, perhaps, after their former elation. Their assets and liabilities are inherited by their sons, A2, B2, C2, D2, and E2. A2 and C2 understand the position in which they are placed. They fully appreciate the fact that the first machines have not been paid for by them; but they badly want the new machines that B2 has now completed. They also perceive that unless B2 can sell his machines the whole economic system will collapse. They are confident that with the new machines they will be able to increase their output; so they decide to purchase the machines and to risk the results. They ask D2 if he will help them in the same way as his father helped their fathers.

A new generation having been born, this method of commodity-exchange is now recognized as *the* way to do things; it has become part of the inherited tradition. It never occurs either to A2 or to C2 that any other method could be adopted. The only question they have to decide is whether they will make the purchase or not.

D2 is delighted to be of assistance, and the wheel revolves once more. A2 and C2 borrow 100 goats each from D2; in return for the risk D2 runs and for what he loses by making the loan both A2

and C2 undertake to send him an annual supply of commodities to the value of 20 goats (this in addition to the supply they already send in accordance with the bargain struck by their respective fathers). They then hand the goats to B2 in exchange for the plough and the loom; B2 immediately takes them back to D2, who undertakes to receive them on deposit and to give B2 a small part of their produce each year, say the equivalent of 10 goats in all. (This is additional to the 10 goats B2 already receives from D2 in accordance with the arrangement inherited from their respective fathers.)

We will examine each man's position again.

B2 is now able to realize his ambition and to give up potato-growing altogether. He thus becomes an independent craftsman. He hands all his fields over to A2's younger brother, who already uses a part of them. In return for the use of the fields this man gives B2 a part of his produce.

D2 now grows wealthy. He still has all his goats, and he enjoys the whole of their produce, less what he sends to B2 and E2. In addition he receives an annual supply of corn and woven cloth from A2 and C2. This is double what their fathers paid; so D2 not only enjoys the use of his father's new house but also has a greatly increased unearned income. He inherited from his father an unearned income of twenty-five goats; besides this he now receives an unearned income of forty goats a year from A2 and C2. He has contracted to send B2 each year an amount of milk and flesh equal in value to ten goats; so his net gain is thirty goats a year, which, added to his inherited income, makes fifty-five goats a year.

Under these circumstances he finds himself able to gratify the ambition of C2's younger brother, whom he now hires to look after his herds. A new element in the economic system at once emerges. This man does the same work as D used to do, but instead of receiving the full exchange-value of what the goats produce, he merely receives an *ad hoc* amount fixed by D2. D2 now begins to receive a regular supply of commodities in virtue of nothing but his ownership of debts and stock. The economic structure is beginning to change.

E2 now gets active and offers to build a new house for B2. B2 replies that he cannot afford a new house. He is merely an impecunious craftsman; his only certain income is what he receives from D2 and the man who hires his fields. He has not enough surplus

to purchase a house; it is as much as he can do to make ends meet. E2 replies that he is ready to receive one hundred goats in exchange for the new house, and since B2 has two hundred goats on deposit with D2, the latter can well afford to pay for the house. B2 is most reluctant to liquidate his assets in this manner, but, as his wife points out, he has had no difficulty in selling his last machines, and there is no reason to suppose that he will have any difficulty in selling the ones he is now making; particularly is this so because the man who hires his fields is thinking of buying a machine so that he can better dig his potato-fields. B2's wife also fails to see why D2's wife should be the only one to enjoy modern conveniences.

Eventually B2 agrees. There is no point in moving the goats; so B2, D2, and E2 meet at D2's house and the goats change hands. B2 gets a new house and loses a supply of milk and flesh to the annual value of five goats; E2 receives this annual income in return for the house. D2's position is the same as it was; the good opinion that his fellow-citizens have of him is confirmed by the fact that he makes no charge for the services he renders.

Strict economy now becomes the rule in B2's home. This means that he can purchase less from A2 and C2. But they do not suffer, for the purchasing-power recently possessed by B2 has been transferred to E2.

We may next suppose that the children of A2 and C2 refuse to give their respective fathers any rest till they also have new houses. But neither A2 nor C2 has any goats on deposit with D2; so they cannot obtain their houses in the same way as B2 obtained his house. The only possible way for them is to borrow from D2. This is what D2 has been waiting for. Hiding his glee, he consents to be generous and agrees to advance the goats wherewith A2 and C2 can purchase the houses from E2. But, he says, A2 and C2 must make good the losses he incurs and give him some reward for the risk he runs. He estimates these things at the same figure as his father did when he was alive, and A2 and C2 readily agree, for this figure is now recognized by everyone as being fair and just.

So A2 and C2 borrow from D2 one hundred goats each, which they transfer to E2, who sends them back to D2 on deposit. After this transaction has been completed E2 receives each year from D2 a further supply of milk and flesh to the value of ten goats a year; this gives him a total supply to the value of twenty goats a year.

D2 still sends each year to B2 a supply of milk and flesh to the value of five goats; he now sends each year to E2 a similar supply to the value of twenty goats; but all the goats are still under his control and he enjoys the unrestricted use of their produce. The advantage he gains by lending to A2 and C2 the goats with which they purchase their houses is that it greatly increases what I have described as his unearned income. Before he lent the goats to purchase the houses he had an unearned income of fifty-five goats. This was after deducting the value of the produce he sent to B2 and E2. Now A2 and C2 have to send him each year additional commodities to the value of twenty goats each. The only extra liability he has incurred is that of sending to E2 a supply of produce to the value of ten goats. So his unearned income is now eighty-five goats a year.

C2's younger brother is looking after D2's goats; so D2 himself produces nothing. Yet he enjoys a handsome income, which comes to him by virtue of his ownership of debts and stock. And do not let us be in too great a hurry to criticize him. According to this method of commodity-exchange he is the one man in the community who is indispensable; the other members of the society could not now get on without him. The fact that his value lies in his ownership of debts and stock does not make him superfluous; it is due to the economic system that the society has adopted.

But it is plain that the production and exchange of the houses has greatly changed the economic structure of the society, and we now see that this third system is unlikely to suit the Hopousians. I consider each commodity in turn.

D2 now receives more corn than his family can conveniently consume. There is a limit to the capacity of the human stomach, and much of D2's corn remains unconsumed. At first he gives some of it to C2's younger brother, who manages the goats. This manager's income now rises, and his standard of living goes up; but he is wise enough to recognize that his extra income is really a spontaneous act of generosity on the part of his employer. There is still, however, a surplus of corn in D2's home even after his family and the manager's family have had their fill. This surplus is either thrown away, wasted, or burnt.

Meanwhile, the amount of corn consumed by the families of A2 and C2 is necessarily much less. A2 has discovered that the result of purchasing a new house is not the same as the result of purchasing a

new and more efficient plough. The latter increased the amount of his corn-production, but a house is unproductive. When he borrowed goats to buy the plough he was able to pay D2 out of the surplus that the plough enabled him to produce; no such surplus is produced by the purchase of the house. On account of the house he has to send each year to D2 just as much corn as he has to send on account of the plough; but the amount of his production remains the same. The result is that after A2 has purchased the house he is worse off than he has ever been before. His family have to go short of food and clothes because he has less corn for his own consumption and none to spare for the purchase of woven cloth.

The fact that A2 cannot purchase so much woven cloth means that C2 cannot purchase so much corn. Even if A2 had the corn to spare C2 would not be able to purchase it. Just as A2 has to send much more corn to D2, so C2 has to send more woven cloth. The result is that the families of both A2 and C2 are worse clothed as well as worse fed than they were before. D2's family, on the other hand, is embarrassed by the quantity of woven cloth it has. Even after D2 has given his manager an extra supply of cloth and so raised his salary again, there is a surplus, and D2's wife becomes a creature of pomp and vanity.

Like A2 and C2, B2 is now poorer than before, and he begins to feel the strain. He considers seriously if it would not be a good plan to resume possession of his land. The only man whose life proceeds on an even keel is E2; and he too is beginning to be concerned about the future. His only policy, he perceives, is to keep on the right side of D2, who, if approached in the right way, might consent to build a new hall, or a new bridge over the river.

The almost universal worry that now oppresses the producers of commodities is shared by A2's younger brother who is much perturbed by B2's plan to resume potato-growing. He decides to ask D2's advice. No land has ever been sold in this society, but the potato-grower has a plan. As B2's tenant, he tells D2, he pays the equivalent of three goats a year; on a deposit of one hundred goats D2 allows five goats a year. Will D2 offer B2 one hundred goats for his rights over the land? If so, he, the tenant, will contract to pay D2 the equivalent of five goats in return for a secure tenure. B2, he urges, is sure to accept the offer, and the transaction will not cost D2 anything. He will be doing the tenant a great favour if he will consent.

But the time has come when generosity to his fellow-citizens is only on the lips and never in the heart of D2. He says that he does not see his way to do as he is asked, for he will make no profit. The tenant offers the equivalent of six and even seven goats a year in return for a secure tenure; but D2 refuses to give the required accommodation. He has conceived a better plan, "better" in that context meaning more profitable. He goes direct to B2, offers one hundred and twenty goats for the land, which B2 accepts, and then tells the tenant that he must either pay twenty goats a year for the use of the land or become D2's paid servant. In the latter case the whole of the produce will belong to D2, who will pay the erstwhile tenant an *ad hoc* amount for his labour.

In this manner D2 secures control of the potato-growing industry; and it is easy to see that this method of commodity-exchange can lead to no other result. In this little society all the producers are soon reduced to the status of being D2's paid servants.

When A2, B2, C2, D2, and E2 die, the tradition inherited by their sons, A3, B3, C3, D3, and E3 is much different from that in which their grandfathers A, B, C, D and E spent their early youth. Perhaps we can best understand some of the differences if we speak in terms of groups, of which the individuals are representative.

Group A are workers on the farms, group B are now the craftsmen and engineers, group C the weavers: all are now the paid servants of group D, the group that controls the thing that measures the exchange-value of commodities. Group D may be imagined to be as numerous as we please; it may contain persons who are members of no other group or its members may be members of any other group as well as of group D. The membership of the group makes no difference to the economic situation that emerges, which is this: it is only by consent of this group that communal halls may be erected or bridges built; it owns all the means of production, all the houses, all the land, everything; the whole society is under its domination. The economic structure of the society has become such that producers are divided into two distinct groups, employers and employed. The former wield their power by virtue of nothing but their ownership of debts and stock; they control output, decide the rates of pay, have the power of veto over any economic enterprise, and there is no appeal from their decisions. The latter do not receive the full exchange-value of the commodities they produce but an *ad hoc*

amount fixed by their employers. The commodities themselves become most unevenly distributed. Groups A, B, and C have too little; group D too much. Of certain things the power of consumption of group D is limited; the other groups are short of these same commodities, but their needs cannot be satisfied; and after group D have seen that their managers are well fed and well clothed, any surplus is wasted or destroyed. Group E survive for so long as they do as group D wish.

These conditions inevitably arise if this method of commodity-exchange is adopted; each factor is the direct result of the method in which commodities are exchanged. I do not think that it is a suitable system for the Hopousians to adopt.

This is more especially so because the overwhelming success of group D introduces into the society certain standards of conduct and judgment which contradict the purpose for which the Hopousians will exist. To revert to the details of the story: when D died his unearned income was inherited by D2, who began to regard the possession of such an income as quite a normal thing. This income did not represent exchange-value and its enjoyment was a pleasant experience; so D2 taught his sons that in this life a man's aim should be the possession of such an income. A man's success, he would say, was to be judged by the extent to which he persuaded other men to supply him with purchasing-power in return for doing nothing.

This idea naturally emerges from the condition that this method of commodity-exchange creates, and it soon becomes an accepted doctrine throughout the society that in this life a man's aim is not to use his natural powers but to get himself into such a position that he can live on other men's labours. The Hopousians, *ex definitione*, will have no use for such aims. It follows that they cannot be allowed to exchange their commodities in such a way that this standard of judgment is created. We must therefore condemn this third method more firmly than we condemned the first two methods. We have still to find a method of commodity-exchange that will suit an energetic people without handicapping or embarrassing the display of their energy.

NOTE ON THE THIRD METHOD

The third method of commodity-exchange is the one we ourselves use. So far as my knowledge goes, every previous civilized society has used it too.

Idealists unanimously declare that many of the economic symptoms they deplore are due to "world-conditions." They say that at present much economic injustice has to be tolerated because it is part of a "world depression," which can only be lifted by the united efforts of many nations. I agree that many of our economic symptoms (idealists call them "problems") are world-symptoms (world "problems") in so far as they are common to all white societies, and white men now dominate the world. And I do not doubt that every white society is economically influenced by the conditions that prevail in other societies; but I feel unable to accept the conclusion that any given society cannot achieve a state of economic "justice" unless all other societies do the same at the same time. Indeed, if that were so, the experiment we are conducting could not have the results I have announced.

Of course, no one knows what a state of economic justice is; when we ask what it is all we have to guide us is a number of differing opinions. Each group of idealists defines the word differently. What we are going to find, mysteriously, is that out of the Hopousian experiment there emerges a state which *any* group of idealists, according to the published aspirations, must regard as economically just.

I do not suppose that the idealists themselves will be pleased about this. I am by no means persuaded that some of them ever want what they profess to want. The will-to-power is strong, and I think that in our society a man's submission to it is often screened by an idealist's smoke, belched forth to protect him from being attacked as a self-seeker. Many idealistic dreams are really dreams of dictatorship. But I propose to take the idealists at their word; I am going to assume that they really want what they say they want. This means that I must accept their implied challenge.

The position is this: I say that a state which they call economic justice emerges out of the Hopousian experiment; they say that such a state cannot be achieved without world-effort. To meet this situation, I have undertaken, in conducting the experiment, to

assume a state of territorial fixation and a static condition of external trade.

For this reason, in describing the third method of commodity-exchange, I did not permit any member of the society to migrate. I now wish to point out that if the society had been able to expand into other territory, the inevitable results of the system would not have been noticeable so long as the period of expansion lasted. They only became apparent so soon because the society was limited to the land it already occupied.

When a society's energy begins to increase in a measure great enough to be measured spatially, the society always begins to expand territorially. Its most energetic members look beyond the horizon that their fathers regarded as the limit of the world; they collect some followers and burst over the recognized boundaries. They conquer less energetic peoples, capture many new forms of wealth and take possession of new lands. Trade increases; settlements are founded, colonies established; and, even though the society exchanges its commodities in the way I have described, it flourishes greatly. It is even able to support without difficulty the group that does not produce any commodities. Indeed, we often find that this is the group that conducts the wars that produce and the explorations that precede the expansion. (This is another reason why the group is respected by those whom it dominates.) But after expansion has ceased the final conditions I described inevitably arise. We ourselves are experiencing some of them now.

In my description of the method I not only disregarded the effects of expansion but also reduced to a minimum the time taken by the society to arrive in its final state. I did so for brevity's sake, and in order that the salient features of the system might be made clear. Actually, I think, it is hardly possible for the results to emerge so soon as I implied.

Most of the story as I told it is historically true so far as our own society is concerned. In the profit I gave to D for the risk he ran and the loss he sustained a student of our economic history will have recognized the *damnum emergens* and the *lucrum cessans* of the medieval canonists. The profit was *interest* in its original sense. Interest comes from *interesse*, "to be between"; it originally denoted the profit that came to a man who made a loan. The profit was that which lay between the original sum lent and the sum he received back. I

shortened the historical development by making A and C give D a definite sum each year. This is what *interest* became within a generation or so of its becoming common.

Another event in medieval history found a place in the story as I told it. When D2 purchased B2's land his behaviour was the same as that of the medieval merchants who bought rent-charges. Theoretically the character of the transaction is important, and we shall soon have to ask what D2 received from B2. Not a simple question to answer. He received, of course, what we receive when we buy land now. But what is that? Theoretically all English land still belongs to the King. What, then, do we buy when we buy land?

The manner in which cash-rent appeared in the economic system of the society was not historically true in all its details. When A2's younger brother became a tenant of B2's the economic relation between the two men was such as existed in England when the villeins computed for a cash payment the services due to their lord; but the historical process by which the cash payments came into being was different. My reason for departing from the historical sequence was that I was speaking of economic groups only. Feudal dues were not exclusively economic payments; they also had a political character. In all previous societies, at any early stage in their energetic career, politics have controlled economics, and I did not mention the payments in kind because I did not wish the story to be complicated by unnecessary details. Historically it is important to note that cash-rent came into existence as the result of computation; but the only point I wanted to notice was that one man became the tenant of another man. I do not say that his tenancy was the result of the commodity-exchange system. The manner in which I told the story was really forced upon me by my wish to distinguish between rent paid for land and rent paid for a house. These different kinds of rent are usually confused by economists, but they are actually different both in origin and nature.

In speaking of the rent paid by A2 and C2 for their houses, I chose to disregard the land on which the houses stood; my description of the manner in which they came to pay rent is historically true. If we exclude the fees we pay for the occupation of land, the rent we pay for a house built now is the same as the payments made by A2 and C2 for their new houses.

My object in describing the system was to show that if com-

modities are exchanged in that way four results must emerge. Moreover, the structure of the society must alter; a certain standard of judgment and conduct must be introduced into it. This standard could not appear if commodities were exchanged in a different manner; nor could the structure ever assume that particular shape.

The four results are:

(1) Producers of commodities, who begin by owning the means of production, lose their possession of them.

(2) Producers of commodities split into two groups, employers and employed, whose material interests conflict. In the early stages of the development these groups are separated by the presence of persons, whom I roughly call "managers," who never unite into a specific group.

(3) There emerges a group of persons who enjoy the possession of purchasing-power in virtue of nothing but their ownership of debts and stock. This group dominates the economic life of the society.

(4) It becomes part of the inherited tradition that a man should aim at becoming "independent." In that context "independent" does not mean a state of freedom from external control but a condition in which a man lives on the products of other men's labours without necessarily doing anything in return.

I am not concerned to discuss whether it is "good" or "bad" that these things should happen. Science is not a study of what "ought" to happen but of what does happen. The point I make is that, if commodities are exchanged in that particular manner, these things do happen and must happen. And since they must happen this method of commodity-exchange will not suit the Hopousians. If they were to adopt it their economic system *could* not fulfil the purpose for which it was designed.

I am the more keen to make this point because some reformers have a habit of ascribing to, say, our deposit-banking system the responsibility for certain economic symptoms that cannot be shown to have anything to do with any banking-system. The four results I have summarized are a direct result of the commodity-exchange system. You can have any kind of banking system that you choose; if you exchange your commodities in that manner the results will emerge. For this reason, in describing the system, I made no reference to banking.

Please do not confuse D with a deposit-banker. D was not a deposit-banker; he merely performed one of the functions that our deposit-bankers happen to perform. He controlled the thing that was used to state and measure the exchange-value of commodities (money). I was most careful to avoid any reference to the medium of exchange (currency), with which also our deposit-bankers are much concerned. In the society I described commodities were directly exchanged. Yet the persons controlling the direction where money went succeeded to the domination of the society. This domination was in virtue of nothing but their power to control the direction of money, and my submission is that, until we understand how that happened, we do not begin to understand our own economic system.

We have still to find a method of commodity-exchange that will suit the Hopousians.

THE FOURTH METHOD

We return to the consideration of our simple society. There are five economic groups in it. Group A produces corn; group B potatoes, and later, machines; and group C woven cloth. Group D looks after the goats that yield milk and flesh; group E consists of builders, carpenters, thatchers, etc. We are trying to discover a way in which, if the society's energy increases, the additional commodities it produces can be exchanged without handicapping or embarrassing the display of that energy. For this purpose we are supposing that group D has had a good breeding season and that group B begins to produce, besides potatoes, some new machines, such as ploughs and looms. To simplify the discussion I speak in terms of individuals, A, B, C, D, and E. So long as we remember that these individuals represent groups, there is no danger in this.

We assume a state in which commodities are directly exchanged, each one for every other one, separately. What we have to decide is the best way in which A and C can get possession of the new plough which B has made, "best" being interpreted *solely* from the standpoint of a society that wishes to display great energy.

We have already considered three possible ways in which the business might be done; none has been found suitable. This may be

because we have always approached the question from the standpoint of the purchaser. Except among manufacturers of a few commodities produced for consumption, like motor cars, wireless sets, encyclopaedias, refrigerators, cheap furniture, etc., this is the usual practice in our society. When a municipality wants a new bridge, or a steel manufacturer a new furnace, or a railway company a new station, each asks, "How can we purchase it?" And this way of thinking runs the risk of making us forget the relation between buying and selling. Except when some persons are permitted to have purchasing-power without either producing a commodity or performing a cultural service, buying and selling are not separate affairs but two aspects of the same affair. When a commodity is sold it is actually exchanged for something purchased in the future. Reason cannot justify our habit of considering a transaction almost exclusively from the standpoint of the purchaser; the seller's point of view is equally important. Let us then, consider it now. The question is no longer how A shall purchase the plough or C the loom but how B shall sell them.

Since we have discarded as unsuitable the three methods of commodity-exchange we have already discussed, B's position is that A cannot give him at once the full exchange-value of the plough; nor can A consent to economize at home in order to collect its price; to borrow is also out of the question for him. This applies to C also. B realizes what the situation is and acts accordingly.

His aim, we must remember, is not only to sell his first machines but also to put himself in such a position that he can continue to produce and to sell machines. He himself thinks that A is a person of integrity and he asks D and E if they think so too. On receiving a favourable answer, he concludes that if A makes a promise he will keep it. So will his son (A2). On this assumption B bases his offer.

Having come to an agreement with A in regard to the exchange-value of the plough in terms of corn, B offers to deliver it to A on the understanding that A sends him each year an annual supply of corn. The amount of each payment is to depend on the estimated life of the plough; say, for the sake of simplicity, twenty years, each year A having to send B a twentieth part of its value. Thus, if the plough is estimated to be worth one hundred goats, A must send B each year a supply of corn equal in value to five goats. The payments are to be continued until A has paid the full amount of the sum

due for the plough. If A dies, A2 is to inherit the liability; if B dies, the payments are to be made to his son, B2.

B adds that his offer is made subject to an arrangement whereby A, as soon as he has completed the purchase of the first plough, will consent to discard it and take delivery of another new one. B is willing to guarantee that the second plough shall be in no way inferior to the first one. He insists, indeed, that it will be a superior one.

A thinks the matter over and eventually accepts. A similar arrangement is made with C, who takes delivery of the loom in return for annual payments of woven cloth. He also agrees that, as soon as the loom has been paid for it shall be smashed up and a new one delivered in its place, to be paid for in the same way.

Do not think that it is wasteful to smash up worn-out ploughs and looms. There seems to be no shortage of raw material in this world, and it is stupid for energetic men to work with inferior machines when more efficient ones are available. An energetic society is always discovering new ways of doing things; if old machines are not discarded when they are worn out a severe handicap is imposed on the energy displayed by inventors, designers, and engineers. Arrangements for the destruction of worn-out machinery is a vital part of any economic system designed for the needs of energetic men.

This being understood, let us examine each man's position, under this fourth method of commodity-exchange.

As soon as A has taken delivery of the plough the amount of his harvest increases. In his home there is a complete absence of the strain induced by the second method we discussed. There is no enforced economy and none of that sourness that comes from the repression of a natural desire and from an effort to pinch and save. There is no need for him to deprive his wife and children of food and clothes that he may "save"; under this method his wife does not grow old before her time. Indeed, the family have more corn and clothes than they have had before; the corn required for its purchase is easily secured by the use of the plough, and there is a surplus after that. This surplus can either be consumed or exchanged with C for woven cloth.

For as soon as C has received the new loom his output also increases. He also has no difficulty in producing enough to pay the annual amount of cloth due for the loom; he even has a surplus after

that. This surplus can either be consumed by his family or exchanged with A for corn. The result is that the families of both A and C have more corn and clothes than they had before. They also have a larger supply of milk and flesh. According to the situation we are supposing to exist D has increased his production of goats. Under the third method of commodity-exchange the extra goats were not consumed; for D found another use for them and allowed them to accumulate. Under the fourth method this other use does not exist; so D exchanges the goats in the normal way for some of the surplus corn and cloth that A and C now produce. The result is not only that the families of A and C have more milk and flesh but also that D's family have more corn and clothes than they had before. And this increase in the common wealth is to be expected; for the total amount of commodity-production and commodity-exchange has increased, and the nature of things is that when this happens the total amount of consumption increases too.

The increase of commodity-production also occurred under the third method; the difference between the third method and this method, so far as the first generation is concerned, consists in the way the extra commodities, having been produced, are distributed. For this difference in distribution the method of commodity-exchange is alone responsible.

Under the third method D's extra goats were not circulated as commodities; so the amount of milk and flesh available for purchase by A and C was less than it is under the fourth method. Under the third method some of the extra corn and cloth produced by A and C was sent to D in exchange for the risk he ran when he made the loans. Under this method loans are unnecessary; so D does not obtain any extra corn or cloth unless he gives some commodity in exchange for them. This is what puts his extra goats into circulation. Under the third method A sent a large part of his surplus to D and kept the rest for his own use; under the fourth method he only sends a small part of his produce to B. The rest is available for his own use. The same applies to C, and we cannot help noting that from the Hopousian point of view this is an argument in favour of the fourth method; for the greater a man's share in his own productions the more he is likely to go on producing. Moreover, neither A nor C is under the necessity of sending an annual supply of commodities to a man in exchange for nothing but a loan.

It is probable, I think, that under these happy circumstances both A and C would yield to the pressure put on them by E and order a new house each; these houses, we will suppose, are supplied on the same terms as the plough and the loom. But after the houses have been built the position of the purchasers is different. A house is not a productive commodity like a plough or a loom; it is for consumption only; so the building of the houses does not produce a further increase in the total amount of corn, cloth, milk, flesh, etc., in circulation. When A and C have taken delivery of their houses, part of the surplus they themselves have been enjoying has to be sent to E in payment of the houses. The interesting thing is that under this method these payments do not place any strain on A and C. This is another point in which the method proves itself to be more suitable, from the Hopousian point of view, than the third method. The life of a house is longer than that of a plough or a loom, and all that A and C have to do is to send E an annual supply of commodities equal in value to the value of the houses divided by the number of years the houses are estimated to last, say one hundred years. This means that each of them has to pay E each year 1 per cent of his house's value. And the arrangement is that, when the houses have been paid for, they are to be pulled down and new ones erected in their place.

Compare the situation now with that created by the third method of commodity-exchange. B's net income, we should notice, is the same under both methods. The only difference is that, whereas under the third method he received payments from D in return for a deposit of goats, under the fourth method he receives the same payments from A and C in gradual payment of a commodity he has delivered to them. Under the fourth method of exchange A, C, and D are the men whose position is different.

For the sake of simplicity we are supposing that the plough, the loom, and the house have the same exchange-value, which we express in terms of goats, say one hundred goats. The plough and the loom are estimated to have a twenty-year life, the house a hundred-year life. Under the third method D received the equivalent of twenty goats a year for facilitating the purchase of the plough; so A's family could not have a new house in A's lifetime. But they can do so under the fourth method, because, to purchase the plough, A has only to send B the equivalent of five goats a year. When A pur-

chases the house from E he has to send E the equivalent of one goat a year, and, besides having a new house, he also has a greater net income than he had before he bought the plough.

It is the same with C. He too has a greater net income than he had before; he also has a new house; and a further argument in favour of this fourth method of exchange is that it encourages a display of human energy by making it possible for new houses to be built at a greater rate. It also makes sure that worn-out houses are pulled down and replaced as soon as they have existed for the period of their estimated life. It is obvious how this is connected with the question of slums.

D's position is very satisfactory. Before the plough and the loom were made he had a surplus of goats, which were of little use to him, for there was nothing except a new house for which he could exchange them. They could have been put into circulation by reducing the exchange-value of goats in terms of corn and cloth; but this would have meant that D had no benefit. The appearance of the plough and the loom enables D to keep the exchange-value of goats at the same level and to exchange some of his surplus for some of the surplus produced by A and C. He is thus able to give his family more bread to eat and clothes to wear, and there is no reason why he should not have a new house too. He can easily afford to pay one goat a year for it, even though he exchanges many goats for corn and cloth. He might even pay more each year than one goat. If he wishes to do so and E agrees, his house might become a fifty-year house instead of a hundred-year one; in which case he would pay two goats a year for it for fifty years. At the end of fifty years the house would be pulled down and replaced by another one.

It certainly seems as if this fourth method of commodity-exchange is the most suitable one we have yet found. Unfortunately there are some objections to it.

In comparing the various methods we are discussing, it is important that we should suppose each person's mind to work in the same manner under the same conditions. When we discussed the third method we came to the conclusion that when B had sold both his plough and his loom he wanted to give up growing potatoes in order to devote himself exclusively to the production of machinery. We shall be unreasonable if we suppose that he behaves in any other way if his commodities are exchanged in the fourth way. His

financial position is the same under both methods, and we must conclude, I think, that when he has sold his plough and his loom he lets A's younger son take over his land in return for an annual payment of potatoes. B thus secures a supply of commodities for which he gives no commodities in exchange.

Now one of the reasons why we discarded the third method was that this situation arose. It seems, then, as if we ought to discard the fourth method for the same reason. Before we do that there is a point to be considered. Between a rent paid for the use of land and interest paid for the use of commodities there is a fundamental difference which must form the subject of a separate discussion. At present I do not wish the argument to be confused by a discussion of the element called "land"; so I propose to leave this objection unanswered for a time. I admit, however, that if the objection cannot be met the fourth method of commodity-exchange must be condemned as unsuitable for the Hopousians.

At first sight, except for this unearned increment which finds its way to B, the fourth method seems to fulfil most of our requirements. It imposes no handicap on the production-and-exchange process; there does not come into existence any group of persons who receive a supply of purchasing-power in return for a mere loan of commodities which do not leave their possession; producers are not split into two opposing groups, employers and employed. Moreover, there does not arise any of the complicated loan-interest-deposit-business that the third method produced. Still, there are other objections to it besides the one I have mentioned.

When A takes delivery of the plough, to whom does the plough belong? Under the third method A became its owner at once, but under the fourth method the situation is far from clear. Suppose A has died and that all the members of his family have died before A has paid for the plough; who owns the plough? It is no good to anyone else; B does not want it back; yet it is still his in the sense that he has not received its full exchange-value. Suppose that after A is dead another man takes over the land; does the plough belong to this second man? Is he liable to B for the remaining payments A was due to make? There seems to be room for much confusion here. The fourth method enables B to go on producing new machines; it avoids the creation of human parasites. These are great advantages which the Hopousian system must possess. But we cannot design

that system on a basis that leaves us in doubt about the identity of those that own the means of production.

There is another objection to the fourth method. This objection has a different nature, but, if we remember the fundamental character of every transaction, there is nothing complicated about it.

We rejected the third method of exchange because it had four results which conflicted with our purpose; but even if these results had not appeared we should still have had to discard it. When D lent the goats which A and C exchanged for the plough and the loom, the total amount of available purchasing-power was only increased by the extra amount of corn and cloth that A and C produced; there was no increase corresponding to the exchange-value of the plough and the loom. Each was exchanged for goats, and the only difference that the production made before the plough and the loom became productive was the prevention of a fall in the exchange-value of goats. After the goats had been lent to A and C and these men increased their production, there emerged a loan-interest-deposit system. We rejected the third method of exchange because this system emerged, but the unsuitability of the method was provable before that. In the story as I told it goats were used as a means whereby the exchange-value of other commodities might be measured and compared; that is, goats performed the function of money. Even if we had not heard the story in full we could have condemned the third system out of hand because the supply of money did not keep pace with the requirements of the production-and-exchange process. When we discussed the question of money-issue in Hopousia we agreed that in the Hopousian system the supply of money must always be equal to and never exceed these requirements. An objection to the third method of exchange is that this did not happen. All that happened was that the goats, which were performing money's function, began to circulate in a different way; whereas, to suit our purpose, their number should have increased in accordance with the requirements of the commodity-exchange process.

The same objection applies to the fourth method of exchange. The plough and the loom change hands, but the total amount of purchasing-power is only increased, as it was under the third method, by the extra corn and cloth produced by A and C. When he has produced and found a purchaser for his machines B is entitled to

receive their full exchange-value. This is his purchasing-power. An objection to the fourth method is that he does not get it; he merely gets an annual supply of corn and cloth. True, his position is the same as it was when, under the third method, he deposited his purchasing-power with D and received interest on it; but under the fourth method there is no such thing as loan-interest-deposit, and what we find is that, though B is as well off as he was under the third method, he is not so well off as in the nature of things he should be. And the reason is that the total amount of available purchasing-power does not increase, as it should, by the exchange-value of the plough and the loom. In other words, the society is short of money.

Incidentally, this explains why there is some doubt about the ownership of the machines. If B had received their full value when he delivered them he would have no claim on them. We see, therefore, that the first objection is really part of the second one. If we remove the second one we also remove the first, so far as B's claim on the machines is concerned.

The situation is not lightly to be regarded; it also exists in connection with the houses E has built. These houses are commodities; when they have been built there should be an increase in the amount of available purchasing-power equal in value to their exchange-value; but it does not exist. All that exists is the new purchasing-power created by an increase in the production of corn and cloth. As the producer of the house, E is entitled to receive in return a supply of purchasing-power equal in value to the exchange-value of the houses. Under the fourth method as I have described it, he only receives each year an annual supply of commodities equal in value to a small part of the houses' value. The fourth method of exchange is the only one we have yet discussed which does not conflict in some fundamental way with the purpose for which the Hopousian system is being designed; but these objections must be removed, or we must reject it as unsuited to our purpose.

To get the position quite clear, let us now speak in terms of groups, of which the individuals A, B, C, D, and E are merely representative. The groups can be of any size you care to make them. Group A are the agriculturists, group B the producers of machinery, group C the spinners and weavers, group D the breeders of live stock, group E the builders and contractors. The point we are discussing is how, for instance, groups A and C can best obtain their

machinery from group B, "best" being interpreted *solely* from the standpoint of a society that wishes to display the greatest possible amount of energy. We are no longer speaking of a single plough or a single loom; what we are saying applies to the sale and purchase of any machinery of any kind and to any number of such machines.

Under the system of commodity-exchange we are considering, the situation is that group B have agreed to supply groups A and C with some machinery and in return to receive each year for twenty years a twentieth part of the machinery's value. By using the machinery groups A and C are able to increase the amount of commodities they produce, and they exchange their extra produce with one another and also with the members of group D, who also have a surplus. But whereas groups A and C receive at once the full value of their produce, the members of group B only receive a part of that value each year. This means that the total amount of available purchasing-power is not keeping pace with the demands of the production-and-exchange process.

The same thing happens when the members of group E supply the other groups with houses. The members of the producing group do not receive at once the amount of purchasing-power to which their production of the houses entitles them.

The difficulty is real, and it is worth while giving some attention to it because, except for this, the fourth method of commodity-exchange has many great advantages. For instance, every contract includes a clause whereby the members of any producing group engage themselves to discard their machinery as soon as they have completed its purchase. The same provision is made when any building is erected. Unless historical or aesthetic considerations intervene, a building must be pulled down, and another one erected in its place, as soon as it has been paid for. In this way no group of producers is ever compelled to be idle; no handicap is placed on a display of human energy. Moreover, the machinery in use is always of the latest design; so are the buildings.

The condition that groups A and C should take delivery of some new machinery as soon as the old machinery has been paid for was laid down by group B because the latter did not wish to be handicapped in their production of machinery; which they would have been if the other groups had been able to go on using (for the sake, perhaps, of greater profit) their old machinery. But the condition

has a universal application and, under this method of commodity-exchange, is imposed whether the commodity being exchanged is a bridge, furnace, crane, town hall, or railway station. And here we discover another argument in favour of the method. In an extremely energetic society, such as the Hopousians will be, aesthetic values change. Subsequent generations have different values from those of the previous generations, and two or three generations after, say, a bridge has been built, men begin to get tired of it and want to build another one. The fact that in an idealistic society these later generations call their values "better" or "higher" than those of their grandfathers must not be allowed to obscure this truth. In an energetic society the smashing up of old, worn out, unsatisfactory commodities is a cultural necessity, and it is vital that the Hopousian economic system should be such as to allow their replacement. One great advantage of the fourth method of commodity-exchange is that it enables this to be done without embarrassment. When the method is adopted, old bridges, machinery, town halls, furnaces, railway stations, and all other commodities can be pulled down as soon as they have existed for the time they were originally estimated to last. I know of no other method of exchange of which this can be said.

We have decided that, from the Hopousian point of view, this method of commodity-exchange is suitable, because

(i) no handicap is placed on commodity-production;
(ii) producers continue to own the means whereby they produce their commodities;
(iii) it does not create a group of parasites who obtain a supply of commodities without themselves displaying energy;
(iv) it abolishes the use, which seems almost unavoidable when other methods of exchange are employed, of worn-out commodities of old design and manufacture.

The objection to the method is that B does not immediately receive all the money (purchasing-power) to which his production entitles him. This means that the society of which he is a member suffers, because the total amount of available purchasing-power is less than the requirements of the commodity-exchange process. If this objection cannot be overcome, the method must be condemned as unsuitable for the Hopousians.

It is surprising to discover that the difficulty only exists because I have chosen to assume a system whereby commodities are directly exchanged. As soon as we speak in terms of cheque-currency, which the Hopousians will use, the difficulty disappears like snow before the sun.

We have seen that a cheque-using society requires, for the issue and administration of its cheque-currency, a supply of conveniently placed buildings which we have agreed to call "banks." In these buildings there are a quantity of books, files, and adding machines, with the aid of which the clerks in the banks carry out the instructions written on the cheques. These instructions consist of an order to transfer certain figures from the ledger-page devoted to the person signing the cheque to that of the person in whose favour the cheque is drawn. These figures are money; they state and measure the exchange-value of what has been received. By derivation they also state and measure the purchasing-power due to the supplier. The function of the cheque is to act as the medium of exchange by carrying these figures from him that receives to him that supplies. When this has been done, the cheque, having done its work, can be destroyed. The figures remain, and signify by their presence that such-and-such an amount of purchasing-power is possessed by the person named.

Let us now suppose that the society of which I am speaking uses a cheque-currency. When A purchases some machinery from B, B receives a cheque which transfers to him the agreed amount of purchasing-power expressed in terms of money. The cheque is cleared by deducting the figures from A's account and adding them to B's account. In the case under consideration, B, having decided that A is a person of integrity, has delivered some machinery to him on the undertsanding that (*a*) A pays B each year a sum equal to the exchange-value of the machinery divided by the length of its estimated life; (*b*) as soon as the machinery has been paid for A will discard it and take delivery of a new lot, to be paid for in the same way.

And now this is where organized society comes in. Organized society is the network of social, political, and economic groups formed by the members of the society; the structure of the society is the way in which these groups are related to one another. The economic groups consist of the producers and distributors, who are

also consumers; the economic structure is the relation that exists between these groups. Under the authority of organized society they run the economic system, and, as soon as we speak in these terms, we see how simple it is for them to remove the difficulty we are up against.

The trustworthiness of the consumer is the foundation on which the fourth method of commodity-exchange must rest. If B can trust A to pay for some machinery over a period of twenty years, organized society can do the same. The only difference is that in that case organized society, not B, must be the judge of A's integrity. If in the opinion of organized society A is a trustworthy person, there is no reason why the money wherewith he can pay B in full should not be issued to him at once. If this happens, B at once receives the full amount of purchasing-power to which he is entitled, and the total amount of available purchasing-power keeps pace with the requirements of the production-and-exchange process.

If we consider the matter calmly any other course of action would seem foolish. Money is a device invented by men for their convenience. When cheques are used as currency the supply of potential money is inexhaustible; men can bring it into existence as they think fit. Chaos will ensue if simple rules are broken, but, if these are kept, money is there to be issued without danger when it is needed for human convenience. The chief rule is that the amount of money available for circulation should be sufficient for, yet never exceed, the requirements of the commodity-exchange process. If B does not receive all his money at once this rule is broken. It is also broken if money is not specially issued when new commodities enter the commodity-exchange process. If, then, the society does not issue the money to A it is breaking one of the fundamental rules that govern the issue of money.

We will place in each bank, therefore, a manager, charged with the responsibility of issuing money. This man must have an intimate knowledge of the administrative work done in a bank; he must also be skilled in the appraisement of human integrity. To assist him in the latter work we will give him the help of a few persons (advisory committee, if you will) chosen from the citizens in the district. These persons will take no responsibility for the decision at which the manager arrives; they will merely give him advice when he asks for it. In the course of their daily lives they are likely to meet and to

have dealings with those who apply for an issue of money, and they will be helpful in appraising each applicant's integrity.

But when money is issued the integrity of the applicant is not the only thing about which a decision has to be made. His ability as well as his will to make the promised payments must be assessed. A man can be trusty without being prudent, honest yet obtuse, industrious yet shortsighted; and I do not think a bank-manager dealing with applications from many different groups of consumers can be expected to have great enough knowledge to enable him to be the sole judge of a man's ability to pay as he promises. The manager will require, I think, to receive advice from a person who has experience of the conditions that prevail in each trade. Only such a person could express an opinion about an applicant's ability to pay. I call this person the accountant; the responsibility for the issue of money, however, will rest on the bank-manager alone.

We will suppose that in the hypothetical case of A the answer to each question is favourable; the business will then proceed like this.

Under the instructions of the bank-manager a clerk will issue to A the money which he pays B. This is done by making a few penstrokes in a ledger. The figures are added to B's total of such figures and debited to A's account in a special ledger. They are also debited to a special Money Issue Account in another ledger. This means that the total debits exceed the total credits, which is the situation we require. When the commodity goes out of circulation, or ceases to exist, the debit in the Money Issue Account must be cancelled. While it remains, the debit represents the value of the commodity.

As soon as the clerk has issued the money to A it is credited to B, who thus receives the full amount of purchasing-power to which he is entitled; he can proceed to draw cheques at once. A has his new machinery and can put it into use without delay. The amount of additional purchasing-power in the society equals the exchange-value of the new commodity produced and exchanged. Henceforth the matter concerns A and the bank only.

A's position is that instead of giving B a cheque each year in part-payment of the machinery, he is debited with a similar amount in the bank-ledger. This debit consists in transferring some figures from A's current account to his account in the money-issue ledger. The money in his current account arrives there when he sells the commodities he produces with the machinery. When his account

in the money-issue ledger is credited with a payment the Money Issue Account is credited with the same amount. This means that, as the exchange-value of the machinery is reduced each year by its use, the money representing its exchange-value also grows less. At the end of twenty years A will have completed his payments. His account in the money-issue ledger will be square; the Money Issue Account, so far as that transaction is concerned, will balance. A will then discard the machinery and take delivery of a new lot, to be paid for in the same way.

This system is also adopted in the case of other commodities. The number of transactions can be multiplied to any extent; the transactions can be of any size. These things make no difference to the way things work. The objections to the fourth method of exchange cannot now arise.

From whatever point of view we regard it, this fourth method passes muster. It assists the process of commodity-production and commodity-exchange; places no handicap on a display of human energy; enables all producers to own their means of production; avoids the process of loan-interest-deposit that creates a group of parasites who obtain purchasing-power without displaying energy. Stated in terms of cheque currency, which the Hopousians will use, no objection can be found to it. No other method fulfils all these conditions. This, then, is the system that the Hopousians shall have.

THE CONDITIONS OF MONEY-ISSUE

When we discussed the issue of money we decided that the Hopousian money-system must fulfil three conditions. If we examine the system I have described we find that these conditions are fulfilled.

(1) The first condition was that the amount of money available for circulation must never exceed the amount demanded by the state of the production-and-exchange process. No man knows what the state of the process will be this year or next year or at any time.

This condition is fulfilled by the fact that money is only issued to the consumers of commodities that have been judged to be trusty and able to repay the money as they promise. It does not matter how much money they require; the supply is inexhaustible. The amount available for circulation can never exceed requirements

because the money is not issued till a commodity has been produced and a trusty purchaser found for it.

(2) The second condition was the one I have just been speaking about, namely, that the amount of money available for circulation must never be less than will meet the requirements of the commodity-exchange process. No one ever knows what the requirements will be in the future.

This condition is fulfilled by the fact that money to the value of the commodity is issued as soon as the producer has found a trusty purchaser. Till he has done so his production does not become part of the commodity-exchange process. It is not even a commodity; for no object becomes a commodity till another man, or another group of men, has consented to give something in exchange for it. As soon as the object enters the commodity-exchange process the necessary money is issued, provided that the purchasers are judged to be capable of repaying it on the agreed terms and to be of such a character that their word can be trusted.

It does not matter how few or how many commodities are produced and purchased; the supply of money is never less than the exchange-process requires.

(3) The third condition was that no amount of purchasing-power (money) must be allowed to remain in existence after the commodities, whose exchange-value it reflects, have gone out of existence. The amount of purchasing-power must also be reduced as the exchange-value of the commodity grows less.

This condition is fulfilled by the fact that, after the money has been issued, its amount is reduced each year by the estimated fall in the exchange-value of the commodity. If the commodity is estimated to last twenty years the money issued to facilitate its exchange is automatically reduced to half after ten years, to a quarter after fifteen years, and disappears after twenty years. So far as that transaction is concerned no more purchasing-power remains in existence.

I draw attention to the fact that I did not try to create such a money-system directly. I merely tried to find the best way in which commodities could be exchanged, "best" being interpreted solely from the standpoint of a society that wished to display the greatest possible amount of energy. The character of the money-system emerged out of this discussion. Its fulfilment of the "ideal" con-

ditions I have just summarized is a matter to which I shall refer again.

We can now answer the questions contained in the section "the Issue of Money" (Chapter VII). The questions were, "When and on whose authority shall a producer receive the purchasing-power to which his productions entitle him?" The answer is that the bank-manager shall have power to give it to him as soon as he has found a trusty customer for his commodity, "trusty" denoting both the ability and the will to pay in future the amount due for the commodity.

CHAPTER IX

The Four Follies

FOLLY NUMBER ONE
THE MEANING OF "CAPITALISTIC"
CAPITALISM AND SOCIALISM
THE WARPING OF THE CULTURAL PROCESS
CREDIT AND THE DEPOSIT-BANKERS
THE WARPING OF THE ECONOMIC STRUCTURE

FOLLY NUMBER TWO

FOLLY NUMBER THREE
ENGLISH BANKING IN THE EIGHTEENTH CENTURY

FOLLY NUMBER FOUR
WEALTH AND LAND

THE FOUR FOLLIES

FOLLY NUMBER ONE is the idea that no consumer is able to purchase a commodity till he has obtained, out of an existing supply, the money that expresses the exchange-value of that commodity.

FOLLY NUMBER TWO consists in the petrification of money and the granting to it of permanent existence.

FOLLY NUMBER THREE consists in the issue of money without the production of commodities.

FOLLY NUMBER FOUR is the idea that Land is a Commodity.

FOLLY NUMBER ONE

It is obvious that from the standpoint of an energetic society the fourth method of exchange, which the Hopousians will use, is the only sensible one to adopt. The third method, which we use, is foolish; for it handicaps the display of human energy in a most disconcerting way. If we are to state in general terms the difference between the Hopousian system and our own, we must inquire wherein the folly lies.

The manner in which the third method of exchange handicaps the display of energy is easily understood. When a society's economic system is based on that method, consumers, to get possession of the things they want, must produce money. If they themselves do not possess it they must borrow it, which means they must hire it, and in such a society all producers *must* eventually become the paid servants of persons that hire out money. These persons, to protect their common interests, form themselves into powerful groups and eventually dominate the society. They only attain to this dominating position because they either possess or control money, and in a society that they dominate human energy can only be displayed in a manner that suits their convenience, which is the convenience of money.

In considering wherein the folly of the third method lies, it is not enough to say that, since money is only a useful device invented by men for their own convenience, they are plainly foolish if they put themselves into such a position that the conduct of their lives is embarrassed by it. This, though true, is not helpful. What we have to discover is how the third method of exchange creates such institutions as give money its power and finally enable its possessors to exert an almost complete control over the lives of their fellows.

Perhaps the matter becomes clearer if we remind ourselves that any human institution is only the embodiment of an idea, conscious or unconscious. We may say, then, that the folly of the third method of exchange consists in some idea which, in operation, produces among other results the one I have described.

This idea is soon traced. Money is a device by means of which men state, measure, and compare the exchange-value of their commodities. It also states and measures the amount of purchasing-

power that the producer of any commodity is entitled to possess; but the performance of this and of any other function that money performs, is derived from the performance of the main function. Commodity-exchange consists in the giving of X commodity A in exchange for Y commodity B. If currency and money are used the nature of the transaction does not alter; it merely takes place in two steps instead of in one. In return for a commodity he has produced, a man does not receive another commodity but a supply of purchasing power, which he later exchanges for the commodity he desires to possess. The vehicle that transfers this purchasing-power to him varies according to the nature of the currency that the society has chosen to use. If the currency is a metal-currency, he receives a supply of metal coins; if a token-currency, a supply of tokens; if a cheque-currency, a cheque. But in each case he takes what he receives, not for its own sake, but for the sake of the purchasing-power it gives him. When a cheque-currency is used the amount of the purchasing-power is measured by figures that are written on the cheques. These figures perform the function of money.

The amount of purchasing-power a producer receives depends on the exchange-value of what he has produced. As soon as he has found a customer for his goods he is entitled to receive the amount of purchasing-power reflected by the exchange-value of the goods; no more, no less. On his part the consumer, to obtain possession of the goods, must transfer to the producer that amount of purchasing-power; no more, no less.

Now, when a society bases its economic system on the third method of commodity-exchange, each consumer must himself produce this purchasing-power. If he himself does not possess it he must hire it from a third party. The purchaser may be an individual person or a group of persons; a group may consist of any number of persons; the transaction may be large or small; but neither the identity of the purchaser nor the size or nature of the transaction make any difference. For a transaction to take place, the would-be consumer must first obtain possession of the necessary purchasing-power.

On this idea our own economic system is founded. We say that no man can have a house, no city a bridge, no scientist a laboratory, no weaver a loom, etc., till each either possesses, or has been able to hire, the purchasing-power to give in exchange for the com-

modity. We may juggle as we like with our bills of exchange, our "documents," our bank-deposits, and the thing that deposit-bankers call "cash at the bank of England." These bits of patchwork do not make a jot of difference to the principle on which the transaction is based. According to our way of doing things, commodities can only be procured in exchange for a supply of purchasing-power that already exists.

The idea that distinguishes the third method of exchange is *the idea that no consumer is able to purchase a commodity till he has obtained out of an existing supply the money that expresses the exchange-value of that commodity.*

That is the folly we are searching for. To that idea, when it is enshrined in economic institutions, I give the name *Folly Number One*; "Folly" because from the standpoint of a society that wishes to display great energy the idea is plainly foolish; "Number One" because it is not the only folly we commit.

Under the fourth method of commodity-exchange a consumer is not compelled to produce the money at once; organized society issues it to him as soon as he has satisfied the appropriate authority that he can and will produce it in future. The consumer may be an individual person or a group of persons; a group may consist of any number of persons, united by any bond; these persons may execute any number of transactions of any kind or magnitude. These things do not affect the nature of the contract. If this method is adopted the display of human energy is not dependent on the pleasure or profit of those who have money or of those who control money. The economic system automatically adjusts itself to any state the production-and-exchange process happens to be in; all producers remain their own masters.

This does not mean that if the fourth method of exchange is adopted human life becomes all sunshine. If you change the way in which men exchange their commodities you change much, but you do not change the inherent nature of human existence. The life of the Hopousians will not consist in an uneventful "happiness" but in the joy and anguish that are inseparable from human effort. Failure and success, suffering and gladness, disappointment and elation, will be theirs; for it is only on those terms that life can really and fully be lived.

Let us take stock. The first great difference between the Hopousian

economic system and our own is that the Hopousians, using a cheque-currency, will design their institutions accordingly. We also use a cheque-currency, but our institutions are those which grew up in the days when we used a metal-currency. The second great difference between the Hopousian economic system and our own is that, whereas we commit Folly Number One, the Hopousians will not. They will therefore avoid its results. These I will now examine. A recognition of these results is vital to a knowledge of what our own economic system is like, and will also increase our knowledge of the Hopousian system, for we shall obtain some negative information that will be extremely valuable.

The examination will also have another advantage. When reformers make their strong protests against the economic conditions that prevail here now they often seem to ascribe economic responsibility to a cause that could not possibly produce the result they deplore. They also seem to advocate the displacement of existing institutions by those which could not possibly produce the results they say they want to achieve. Maybe it is their emotional stress that prevents them from thinking about such comparatively dull things as methods of commodity-exchange (they certainly have never paid any attention to them); and, if we examine the results that our own method of commodity-exchange has achieved, we shall be able to correct (though only by implication, for this is not our main purpose) some of their more common errors.

This criticism applies to reformers in any white society; so the examination we are about to make has an almost universal application. The method of commodity-exchange used in Great Britain is common to all white men wherever they live; so all white societies are experiencing the results that the method produces. In some cases these results have not yet emerged with so great intensity as in Great Britain; in other cases they are not emerging at so great a speed; in still other cases their effect has been mitigated by other forces, so that their influence has not been felt so keenly. But such variety within the pattern does not affect the broad nature of the results, and it is with their broad nature alone that I am concerned.

THE MEANING OF "CAPITALISTIC"

The first result of Folly Number One is to produce the state called "capitalistic." It is also called "capitalist," but this adjective is also

used as a noun, to denote a person of capitalistic habits; so, to avoid confusion, I shall use the longer word in all adjectival contexts. It is not, however, a simple word to understand. Indeed, it has been so bandied about of late years that sometimes it seems to have no meaning left at all. We must therefore define it carefully; and, lest I should be suspected of making my point by shuffling with definitions (for to-day commercial morality seems to be extending to the world of thought and letters), I propose to tie myself closely to such classical writers as Gide, Cunningham, and Ashley.

Gide says: "In primitive communities of hunters, fishermen, or shepherds, it was nature that supplied almost everything; then in ancient times it was joined by labour, first agricultural, afterwards industrial; while in modern societies capital has at length appeared, and dominates the other two to such an extent that the present social regime is constantly described as a *capitalist* regime."[1]

Any social anthropologist knows that this simple picture of the cultural process is not true, but its accuracy does not matter here. The point is that, according to Gide, uncivilized societies do not use capital and are not capitalistic. Moreover, our fathers did not use capital; nor were they capitalistic. Capital "at length appeared," and, having appeared, inaugurated a capitalistic regime.

Cunningham and Ashley agree with this. Speaking of the eleventh century, Cunningham says: "Stock-in-trade there undoubtedly was, but no Capital as we now use the term." According to Ashley, "There was as yet no *capital* in the modern sense."[2]

What is this thing called Capital, which uncivilized societies have not, our forefathers had not, but which has "at length appeared" among us and turned our society into a capitalistic one?

The word comes to us through the medieval scholars, and we should have been saved a lot of trouble if the early economists had chosen to use another word instead; for almost any word would have served their purpose better than the one they chose. In classical Rome *caput*, from which capital is derived, was never a technical word, and, though used to denote the principal of a loan, it had no definite meaning. True, Cicero uses it in that sense, so do Livy and Horace; but the latter can hardly be regarded as authorities on the

[1] C. Gide, *Principles of Political Economy*, trans. E. F. Row, p. 63.

[2] W. Cunningham, *The Growth of English Industry and Commerce*, p. 4; W. J. Ashley, *An Introduction to English Economic History and Theory*, pt. i, p. 42 f.

exact use of words, and, according to Lewis and Short, Cicero only uses *caput* for the principal of a loan in his letters and in one speech. Even he was slack sometimes, as when he uses *faenus* in the same sense. Strictly speaking, *faenus* did not denote the principal but the proceeds of a loan, the interest on it; it was a dignified form of *usura*. Cicero, when he wants to be precise, uses one of the several words which the Romans had for what we call "capital"; thus, *debitum*, a debt simply, any form of debt; *sors*, originally a lot or share, then an interest-bearing loan; *versura*, a borrowing at interest to pay off a previous loan, the liquidation of one loan by a new loan, etc. *Caput* was definitely a loose word and finds no place in Roman law; the minds of the jurists were too finely moulded to admit of its use there. The medieval scholars, on the other hand, were not so careful, and for the more accurate *sors* they often substituted the more popular *caput*, which, however, denoted many things that *sors* did not denote. There is some reason to believe that the adjectival form of the word, *capitalis*, as in our "capital stock," was first used; the substantival form of the word only came later. This seems to be supported by the fact that St. Antonino (1389-1459), who was one of the first men known to have used the word, used it in an adjectival sense.[1] Ashley could find no earlier date for the substantive than 1611.[2] After that it seems to have become common. The Physiocrats introduced it into economic theory in the eighteenth century, and since then economists have spent much time and energy trying to define it. They have also tried to discover the origin and function of the thing called "capital," and one of the difficulties with which we have to contend is caused by the tendency of the user of the word to place on it such a definition as would fit his theories. This complicates the matter. The ideas it expresses existed in men's minds long before political economy was thought of, and it is probable that the economists have only got into difficulties with the word itself because, by trying to define it, they were

[1] See, e.g., Bede Jarrett, *S. Antonio and Medieval Economics*, p. 67, n. 1. Antonio ("Little Anthony") was made Archbishop of Florence in 1446. His economic pronouncements, published in his *Summa Moralis*, were more accommodating to "capital" than those of the Schoolmen. His ideas are therefore called more "realistic" by orthodox economists. At any rate that is the epithet used by R. H. Tawney in his *Religion and the Rise of Capitalism*, p. 16.

[2] W. J. Ashley, *An Introduction to English Economic History and Theory*, pt. ii, p. 482, n. 183.

attempting to petrify something that was fluid and in a constant state of change.

One man, Senior by name, said that capital was produced by saving; he called it *abstinence*. He saw that capital was an instrument used in the production of commodities; so, since capital was produced by abstinence, he maintained that abstinence was an Agent of Production. It is certainly true that if, for instance, a poultry farmer did not save some eggs to be hatched he would not produce any more chickens; but, as Gide points out, it is nonsense to say that the non-consumption of eggs is an agent in producing chickens. To make abstinence an efficient cause in production is to turn a negative into an affirmative in a most careless manner. At the same time, saving, though it may not be a factor in production, is clearly one way in which capital may be formed; and this apparently is what Senior was trying to say. According to him, to become a capitalist, you must begin by saving.[1]

This idea was common in the nineteenth century, and, living in a capitalistic society, we are apt to speak of the money we have saved as our "capital." This habit is encouraged by the fact that the amount of any capital is usually expressed in terms of money. But money is not capital and capital is not money. A man who lives in a non-capitalistic society can have any amount of money and yet have no capital. Conversely, a man in a capitalistic society may have any amount of capital and yet have no money. Money, we have seen, is a device that men use to state, measure, and compare the exchange-value of their possessions; by derivation it also states and measures purchasing-power. In itself it is no more than this, and it can only be called "capital" under certain circumstances. Strictly speaking, it is potential capital, but it only becomes capital when someone takes it and utilizes it either by trading with it or by using it to help produce other commodities. When we say that the money we have saved is our capital we mean that it is available for such use.

When money is so used it is always exchanged for something else; this something else is also called capital. The value of this some-

[1] Nassau W. Senior (1790–1864) was the first professor of political economy in England. He was elected to the Oxford chair, the first English chair of its kind, in 1825. For his "abstinence" theory, see E. Cannan, *A History of the Theories of Production and Distribution*, p. 41; C. Gide and C. Rist, *A History of Economic Doctrines*, trans. R. Richards, pp. 349–51; C. Gide, *Principles of Political Economy*, trans. E. F. Row, pp. 111–14.

thing else is usually expressed in terms of money, but we must not confuse the something else which is capital with the money that expresses its value. What we have to discover is the difference between capital and *capital as we now use the term*, for it is this, not capital itself, that "at length appeared" and inaugurated a capitalistic regime.

The difference becomes apparent if we consider the meaning attached to capital by orthodox economists. They use it in many different ways because it includes many different things. Marshall's definition is not very satisfactory. "By Capital," he says, "is meant all stored up provision for the production of material goods and for the attainment of those benefits which are commonly reckoned as part of income."[1] The second part of this sentence deprives it of any meaning. First, "commonly reckoned" implies a popular and therefore a loose judgment; secondly, no man can define "income" without using the word "capital." Gide, indeed, in answer to the question, "What is income?" is unable to make any other reply than "all that is not capital." So Marshall's definition comes to this: "Capital is all stored up provision for the attainment of things non-capital." But "stored-up provision" is a phrase worth remembering; for it expresses the same idea as these definitions of "capital":

A. R. J. TURGOT: "accumulated values."

K. MARX: "dead labour."

JAMES MILL: "the accumulated or hoarded produce of previous industry."

F. W. TAUSSIG: "the concrete apparatus of production"; "previous labour."

N. W. SENIOR: "an article of wealth, the result of human exertion, employed in the production or distribution of wealth."

J. S. MILL: "an accumulated stock of the produce of labour."

T. R. MALTHUS: "accumulated wealth."

D. RICARDO: "that part of the wealth of a country which is employed in production and consists of food, clothing, tools, raw material, machinery, etc., necessary to give effect to labour."

C. GIDE: "no wealth can be produced, in normal economic condition, without the presence of a portion of pre-existing wealth. As a name must be given to this pre-existing wealth, we call it *Capital*."[2]

[1] A. Marshall, *Principles of Economics*, p. 138.

[2] For these definitions, see E. Cannan, *A History of the Theories of Production and Distribution*, pp. 89–106; W. J. Ashley, *An Introduction to English Economic History and Theory*, pt. ii, pp. 429–33; C. Gide, *Principles of Political Economy*, trans. E. F. Row, p. 98.

Nowadays such sentences as these appear truisms; but what they express is important. Capital consists of pre-existing wealth. When we say that a man must have capital before he can produce a supply of commodities we mean that before he can begin to produce them he must have a supply of other commodities. This is also true of the capital used in trading. A trader may call his money his capital, but it is useless to him unless he purchases commodities with it, and these commodities must exist before his trading operations can begin.

But capital, in this sense of the word, has existed throughout the ages. True, the *first* commodities that men ever produced *must* have been produced without the help of other commodities; but all the men, uncivilized or civilized, of whom we have direct knowledge, use pre-existing wealth to produce other wealth. Among uncivilized peoples fishermen have their canoes, nets, and hooks; hunters their spears, agriculturists their ploughs. In medieval times our forefathers had their looms, harrows, saws, chisels, and mortars. According to the definition placed on "capital" by the economists, these things were "capital"; they constituted an accumulated stock of previous industry. Yet we are told that in those days capital *as we now use the term* did not exist; and since it was capital in the modern sense that inaugurated the capitalistic regime under which we live, the use of such capital cannot constitute the use of capital in the modern sense.

The explanation of this apparent contradiction lies in the fact that in their attempt to define a popular word economists have made an "unreal" definition. Living in a society that had become capitalistic they tried to analyse the elements in it without thinking of much else. If they had enlarged the scope of their inquiries they would have seen that the definition they made, though not inaccurate, was valueless; for, whereas they sought to define what was happening in their own society, they merely succeeded in defining what happens in all societies. The peculiar character of the system they were examining did not emerge. Ashley makes short shrift of their work. Speaking of the eleventh century, he says: "there was as yet no capital in the modern sense. Of course there was capital in the sense in which the word is *defined* by orthodox economists 'wealth appropriated to reproductive employment'; for the villeins had ploughs, harrows, oxen, horses. But this is one of the most unreal

of economic definitions." He then quotes Cunningham with approval: "By capital we habitually mean more than this; we mean a store of wealth which can be directed into new and more profitable channels as occasion arises."[1]

We can now see what circumstances the economists neglected when they set out to define "capital"; these circumstances are those which create the difference between capital as it was used in medieval times and as it is used to-day. It is true that, strictly speaking, a savage's spear is his capital; but it is not true that if he is not using his spear a fellow-clansman will pay him for the use of it. The other fellow has his own spear. It is true that the medieval weaver's loom was his capital; but this weaver could not live idly on the money paid to him by another weaver for the use of the loom. That weaver had his own loom. Capital may consist of previously accumulated wealth, but, in the modern sense of "capital," the essential thing about that wealth is not that it has been accumulated but that it yields a revenue. For "capital," as we now use the term, to exist, there must prevail a condition in which the possession or control of wealth enables a man to enjoy an income without labour. The essence of a "capitalistic" society is that its members are afforded opportunities for investment.[2] In uncivilized societies these opportunities do not exist; therefore these societies are not capitalistic. The opportunities did not exist in the eleventh century; therefore, as Cunningham and Ashley insist, capital in the modern sense did not exist and society was not capitalistic.[3] It may be academically correct to define capital as pre-existing wealth, but the utilization of pre-existing wealth does not inaugurate a capitalistic regime. In the academic sense uncivilized men use "capital," but that does not make their societies "capitalistic." The medieval craftsmen used "capital," but medieval society was not capitalistic. When Gide says that "capital at length appeared" and inaugurated a capitalistic regime, he means that opportunities for investment were later afforded.

The manner in which Folly Number One creates a capitalistic

[1] W. J. Ashley, *An Introduction to English Economic History and Theory*, pt. i, pp. 42–3.

[2] Cp. W. J. Ashley, *An Introduction to English Economic History and Theory*, pt. ii, pp. 433–4.

[3] Also op. cit., pt. i, p. 155: "From the eleventh to the fourteenth century there was but a very small field for the investment of capital."

system is soon revealed if we use the word "capital" to include money available for investment.

In our capitalistic society, to obtain the pre-existing wealth called "capital," a man must possess or raise the money-capital. In mediaeval times, if a craftsman wanted some stock-in-trade and had no ready money, he received what he wanted on credit. And there was no need for him to have any special building to work in; he just hired a house and worked there. His needs were modest; a little raw material, a few tools, and loyal customers. But after this domestic economy had been succeeded by a factory economy things were different, and the modern entrepreneur, to obtain his stock-in-trade and buildings, has to borrow money-capital from other persons. It was when traders and producers first began to borrow money-capital for their businesses that the opportunities for investment were created, and it was then that capital *as we now use the term* "at length appeared" and inaugurated the capitalistic regime. If it had never been necessary for any trader or producer to borrow money for his business no capitalistic regime could have emerged.

Now traders and producers are only compelled to borrow money because they have to pay for the existing wealth out of existing money; which is Folly Number One. If Folly Number One had never been committed no capital in the modern sense would have "at length appeared"; no capitalistic regime would have been inaugurated.

CAPITALISM AND SOCIALISM

In every white society now there exists a large number of persons whose rebellion against contemporary conditions is intense. When they speak of economic things, they constantly refer to "capitalism" and "socialism," as if the one were the economic antithesis of the other. Any word ending in ism is only a rationalistic conception; each rationalist places on it a definition that suits his temperament and fits his experience. As used by reformers both "capitalism" and "socialism" are shapeless ideas that are never exactly defined, and there is much danger that the weight of political propaganda will soon persuade even thinking men and women that socialism *is* the economic antithesis of "capitalism"; whereas economically there is no difference between them.

When socialists harangue the uninstructed multitude they often declare that everything would be quite all right if we had socialism

instead of capitalism; but the truth is that the basic faults for which socialists condemn capitalism are also inherent in any form of socialism. Thus we are sometimes told that we cannot "recover" till our deposit-banks are owned by the community. Such a cry appeals to the proletariat, but in saying such things socialists confess their ignorance of deposit-banking which is a relic of our metal-using days. Far from preserving it by nationalizing it, the white man, if he is to "recover," must abolish the practice as being primitive and useless. The system is unsuitable for energetic men; and you cannot change the system merely by changing the identity of the people that control it.

Other socialists say that if our mines and our railways (for instance) were nationalized everything would be well with them. But, again, you do not change the nature of an economic system by changing the identity of the people that own a few productive commodities. Even if the socialists had control of these and other things they would continue to speak, as they have always spoken, in terms of capital and investment. Some of them even write books telling people how to invest their money. All of them think that money-capital must be secured out of an existing sum before a consumer can receive a supply of commodities. The difference between socialists and capitalists is not economic but political. They have different ideas about who should control the money-capital, but both parties assume that Folly Number One must be committed, and under those circumstances the emergent economic system, whichever controls it, is bound to be capitalistic; for a capitalistic system is the direct result of committing that Folly. Economically it does not matter whether the "capital" is controlled by a few persons, by a multitude of persons, or by a hypothetical entity called the State; the system is fundamentally the same.

In trying to understand the thing loosely called socialism, this must always be remembered. It partly explains, I think, why such a variety of persons can unite under a socialistic banner. There are socialists whose ideas are a weak dilution of the liberal ideas that were common in the last century. The men who control the capital invested in co-operative enterprises also call themselves socialists; so do the men who lead the wage-earners in their struggle against the entrepreneurs. Some socialists hate the bourgeoisie; French socialists, on the other hand, are themselves bourgeois and cannot be

anything else. The nationalist socialists of Germany are usually called fascists by the British socialists, who themselves are divided into doctrinaire socialists, trade union socialists, co-operative socialists, and Marxian socialists. They do not agree about much. Moreover, many of them heartily disliked, when first they heard of it, the particular kind of socialism favoured by the men who got control of Russian society in 1917.

The so-called socialism of the Russians is as capitalistic as the so-called capitalism of Great Britain or America. The difference between Russian and British or American society is not economic but political. The Russians agree with all other white societies in thinking that no group of men may obtain possession of any commodity unless they have produced out of an existing supply the money that expresses the exchange-value of that commodity. Under the Russian economic system there is opportunity to invest. True, the proceeds of investment are heavily taxed, but that does not alter the fact that investment, which is the essence of capitalism, can take place. There are also heavy death duties in Russia; the Russians hope that these duties will take much power away from the rentier class which *must* emerge in any society that gives its members opportunities for investment. This hope may be temporarily justified, but such economic patchwork does not change the character of the economic system, which is plainly capitalistic.

In Hopousia, as in any other society, pre-existing wealth will be used to produce other goods; but the Hopousian economic system will not be a capitalistic one; for there will be no opportunities for investment. These opportunities will not exist because no man and no group of men will be compelled to have or to obtain an existing supply of money before they can take possession of a store of goods. Before our society became capitalistic the pre-existing wealth now called "capital" was called "stock-in-trade." The name was changed because the economic state of our society changed.

The thing loosely called "unemployment" (and too many diverse phenomena cluster in the shade of this word to allow a full discussion of the subject here) occurs when, owing to the commission of Folly Number One, the people controlling money have secured complete dominance of the society. But the Folly cannot achieve its full results if each person has some acres to till; "unemployment" can only arise if the groups controlling money have

deprived men of their acres. That was how Roman men became "unemployed" in the first century B.C. But even if men keep their acres the symptom called "unemployment" will still appear if the society becomes industrialized and money is in control. Neither situation yet exists in Russia, but the latter one will soon arise if Folly Number One is still committed and if industrialization proceeds apace. To say that there is no unemployment in Russia now is like saying that there was no unemployment in England during the thirteenth century. The unemployment-producing factors were not operating then.

THE WARPING OF THE CULTURAL PROCESS

Our method of commodity-exchange is common to all white societies and affects what we call "international affairs" in a manner hitherto unsuspected. The subject is outside my present scope, for I have undertaken to discuss a society as if it were a closed unit. There is, however, one important item to which I must call attention.

In terms of city-building our method of commodity-exchange means that a city cannot be built till the inhabitants possess, or have procured, the money to pay for it. It also means that persons with money are always on the look-out for something to invest it in. For this purpose they often approach the members of a less energetic society in order to persuade them to borrow money; and in this way many cities are built in the lands of people who, unless they had been lent money, would never have possessed any large cities at all.

Now city-building is an activity in which energetic societies indulge at certain stages in their cultural careers. So regular is the appearance of this activity that we can sometimes check a society's position in the cultural scale by inquiring whether or not at a certain period of time it possessed large cities. Spengler has written some significant paragraphs on the point. The white man's method of commodity-exchange thus introduces into the study of the cultural process a complication which will deceive us if we are not careful; for it enables a less energetic society to have cities which are not the product of its own energy.

There are many examples of this in the world to-day. Most of the Balkan states have a few large cities, but these cities cannot be cited as evidence of the energy displayed by the Balkan peoples. The cities

have been built with borrowed money and are not really Balkan cities at all; they are cities built by other societies on Balkan land. Seeing Balkan cities, a casual observer might conclude that the Balkan people were in the state of energy which makes men build cities; but actually the Balkan people are not in this state. Their cities are not the product of their own but of other people's energy.

The same is true of Australian cities. Mentally the Australians are not an energetic people. Instead of developing the great potential resources of their land, they huddle together in a small corner of it. They have great cities there, but these cities have not been built by the Australians, who have borrowed so much money that they find it difficult to pay the interest. In assessing the position of the Australians in the cultural scale we must make allowance for the effect that loans have had on their behaviour.

An estimate of Australian energy can easily be made by asking to what extent they have developed their land; the answer can hardly be regarded as satisfactory by those who admire human energy. It would be simple to dam the Darling and the Murray Rivers and to irrigate vast tracts of land that are now deserted and unproductive; only a lack of energy, encouraged by our method of commodity-exchange, prevents the work being done. The situation is that instead of making their desert a place where human beings might settle and live in freedom and security, the Australians are beginning to produce, in a corner of their continent, a discontented, herded, proletariat that shouts for bread and entertainment, and behaves in a manner which every student of the cultural process is compelled to classify as lethargic. The interesting point is that much of this lethargy is the product of outside forces, being due to the disillusion created by the accepted method of commodity-exchange, and to the effort required to pay the interest on the loans received for the building of cities.

The Canadians are another people who groan beneath a burden of debt. The peculiar character of the American banking system, coupled with the accepted method of commodity-exchange, has enabled American bankers to victimize the Canadians to a most surprising extent. Dazzled by the possibility of getting cities built and industries developed for them, the Canadians also have borrowed and borrowed till they too find themselves severely handicapped in the display of such energy as they have. Culturally they cannot be

called an energetic people, but there is no doubt that their energy, which was great, has been sapped by economic forces.

I hope that these examples will give some idea both of the influence exerted by our present methods of commodity-exchange, and also of the difference between life as it will be lived in Hopousia and as it is lived by the white man here now. It is plain, however, that the Hopousians would not be able to adopt the fourth method of commodity-exchange if they had such a banking-system as ours; so that our next step will be to consider the chief differences there will be between their banking system and ours.

CREDIT AND THE DEPOSIT-BANKERS

Folly Number One is committed by men who have forgotten, or who have never known, the meaning of credit. Fundamentally credit has nothing to do with money at all; it is a psychological not an economic affair and consists of the belief that in the future a man, or a group of men, will produce commodities of the same value as those already received. The value of commodities is usually expressed in money symbols; the extent of this credit or trust is often expressed in the same way; but the manner in which we express the amount of credit a man receives must not be allowed to conceal the reason why he receives credit. This confusion is very common to-day. For instance, among deposit-bankers the word "credit," instead of expressing the trust that one man or a group of men has in another man or group of men, is used to denote a kind of temporary mortgage. A deposit-banker will not often give credit unless he receives what he calls security; that is to say, before a producer of commodities can receive credit of £1,000, he must supply the deposit-banker with evidence that he possesses £1,000 in another place. In other words, the deposit-banker will only lend his clients' money to those who already have money. That is not intelligent and could not be tolerated in Hopousia. Indeed it is not credit at all but, as I have said, a kind of temporary mortgage of existing possessions.

If energetic men are to be granted facilities for the display of their energy, the economic structure must provide for the supply of money to every producer who finds a trusty customer. So soon as the producer has delivered the goods he is entitled to be credited with the full agreed value of those goods; the trusty customer is entitled to credit for those goods, that is to say he is entitled to receive them

on the understanding that in the future he will produce commodities of equal value. And so soon as he has produced the equal value he can discard the goods and receive other goods which, since his fellow citizens are energetic men, will be of fine workmanship, quality, and design. At present in every branch of the white civilization, old machinery is not discarded; it is kept going for the sake of profit, and this is one reason why machine-producers and ship-producers are idle. But it is not the main reason. In my view, the effect of the profits-motive has been much exaggerated by emotional journalists; the fundamental reason lies in the mental processes of which our economic structure is a reflection and which have placed us in such a position that, to a large extent, producers are at the mercy of deposit-bankers. The deposit-banking system is a drag on the whole of human energy, and if the white man is ever to control his cultural destiny the deposit-banking system is the first part of the economic structure that must be changed.

It is convenient to summarize in short sentences the manner in which the system prevents a display of energy.

(1) Deposit-bankers do not give the credit which must be given to trusty men or to trusty groups of men, if the producers of commodities are to receive their due.

(2) Most of what the deposit-bankers call credit is not credit at all, but a mere temporary mortgage of existing possessions.

(3) Even if the deposit-banking system were changed so that it gave the credit mentioned in (1) it would still be unsatisfactory, for the amount of its advances would still be limited by the amount of its deposits. In other words, the total value of commodities for which credit was given would still be limited instead of unlimited. This habit is a relic of the goldsmiths who made advances only up to an amount in proportion to their deposits.

(4) Even if the handicaps by (1) and (3) were abolished, the deposit-banking system would even then be unsatisfactory, for there yet remains in the minds of deposit-bankers another idea which is a relic of the by-gone age of the goldsmiths. This is that a deposit-banker can only make temporary advances, whereas in an energetic society trusty men must be given credit for such a time as they take to pay for the commodities or for such a time as the commodities last.

The case against the deposit-banking system seems to be growing,

but I am not attacking it without motive. My point is that it prevents a display of human energy; in my view it is an unintelligent system. No political programme showing the manner in which it can be changed is known to me. On this question the only difference between politicians is that some wish for deposit-banks to remain in the hands of joint-stock companies, others wish to "nationalize" them. Neither of these proposals is helpful, for neither goes to the root of the matter. Later, when we discuss the effects of the Follies, I shall refer to deposit-banks again.

THE WARPING OF THE ECONOMIC STRUCTURE

We can now assess more of the broad effects produced by Folly Number One. It creates a state called "capitalistic" and makes usury a basic factor in the economic system. This in its turn warps the structure of the society by creating groups of non-working capitalists; these, to distinguish them from entrepreneurs, I call rentiers.

It is often said that the human animal is an idle animal. Men do not work unless they must. But in this the human animal does not seem to differ from other animals, and if, when we call men "idle animals" we mean that their idleness is exceptional, we do men an injustice. The fact is, however, that if they can live without working they will, and none can deny that in trying to secure a living without doing anything in return for it the human animal displays much ingenuity. Human records contain many remarkable phenomena, but surely none is more remarkable than this, namely that men are loath to use the powers with which they are naturally endowed. They must be compelled before they use their powers of creation, and although they have the power of reason they seldom use it till danger threatens, and even then they use as little of it as they can.

Rather than face the facts, which would demand an effort, they cherish ideas which they suspect to be illusions; rather than act, they hope; rather than think, they accept what they wish to believe. If they have been compelled to rise in the cultural scale, they realize that in creative work they obtain a joy that is obtainable in no other way; but only a few conduct their lives in such a way as to obtain it. Most men prefer to neglect their powers and to comment dryly on the purposelessness of human life.

Let usury become the rule and such creatures are produced in abundance. In the early seventeenth century, Fenton remarks, "The

gains of usury are sweeter gains, without labour, without cost, without peril . . . painfull in respect of others, so easie, so cheape, so secure. It hath bewitched even the consciences of those who are most tender in other matters . . ." [1]

When Fenton said that usury bewitched consciences, he meant that when usury becomes a regular rule, standards of judgment change. It cannot be too greatly emphasized that social values are products of the age.

Sir Thos. Culpeper and Sir Josiah Child argued not against usury, but against the high rate of usury; still they noticed the effect that usury has on men. Since men can be usurers, Culpeper says, "they grow lazie in their professions." [2] Child noticed that after making a certain amount of money many men gave up trading and lived on usury, "the gain thereof being so easy, certain and great." [3]

Although it is fashionable to murmur that men are creatures of their environment, comparatively few people grasp the full meaning of this, namely that the standards by which men judge are the products of the cultural environment. Folly Number One not only warps the structure of a society by creating groups of idlers, but gives to a society standards which are commonly called bourgeois.

Folly Number One, in giving rise to large conglomerations of capital, forms chains of retail shops which penetrate to provincial towns and eliminate the private trader there. Capital has power to dictate prices and conditions to producers. It makes thrift a virtue; and creates great riches and dire poverty.

Folly Number One controls the shape of our cities; prevents rebuilding; disfigures the countryside with wires and cables which but for "cost" would be laid underground; encourages bad work because it is "cheap"; handicaps engineering and transport, and, in short, in every way limits the display of human energy.

That is not to say that all our so-called "economic problems" are created by Folly Number One. It is the fundamental folly only in the sense that when energetic men commit it they thereby shoulder a burden that in the end becomes to heavy for them to bear.

It would not be wrong to say that every political movement in our

[1] R. Fenton, *A Treatise of Usurie*, London, 1611, pp. 2 and 3.

[2] Sir Thomas Culpeper, *A Tract against Usury*, presented in High Court of Parliament, London, 1621.

[3] Sir Josiah Child, *Brief Observations concerning Trade and Interest of Money*, London, 1668. *A Short Addition to the Observations concerning Trade and Money*, London, 1668.

time has as its final object the modifications of the First Folly's inevitable influence. Take any political party you like. The so-called Conservatives (what do they conserve?); the Liberals, where they still exist; radical Socialists, doctrinaire Socialists, trade union Socialists; Co-operatives and their like; Distributists; the upholders of Social Credit; the National Socialist Party in Germany, the Fascist Party in Italy, the Communist Party in Russia, and the men behind the New Deal in the United States of America; all of them struggle against the effect that the Folly produces; yet all of them assume without question that the idea in which the Folly consists is true. Their common helplessness in the face of the situation that confronts them is one of the most glaring examples of the difficulty men experience in thinking otherwise than along the well-worn lines laid down in the past.

As I look back along the stream of time it appears to me that, to save themselves from the consequences of this Folly, men have tried almost every method except one: the abolition of the idea responsible for the trouble. To my knowledge, the abolition of the Folly has never yet been mooted. Yet this is certain: if the Folly is committed and the society gets beyond a certain state of energy, its economical structure *must* dissolve. No other outcome is possible. The dissolution may be postponed, but it must eventually take place; for the Folly warps the structure of a society in such a way that the time comes when the structure can no longer hold together.

FOLLY NUMBER TWO

In itself money has no power at all. It is a symbol that assists the exchange of commodities, by stating in a simple and convenient way their exchange-value. Yet in the career of every energetic society there has come a time when money was not only powerful but even all-powerful. This is the case among us now. And when money has power there comes into existence a group of men who, since they control money, are all-powerful. This group of men is commonly called the money-power, for they do not derive their power from their own abilities but from the power of the money which they control. The money may not be theirs; it may belong to other men. The money-power is all-powerful not because of the possession of money but because of the control, which itself is all-powerful. A famous demagogue once described money-power like this. "The money-power preys upon the nation in time of peace, and conspires against it in times of adversity. It is more despotic than monarchy, more insolent than autocracy, more selfish than bureaucracy. It denounces as public enemies all those who question its methods or throw light on its crimes. It can only be overthrown by the awakened conscience of a nation."

The man who said this was an American. In America each of the Four Follies is committed in greater intensity than in any other society. And it is typical of the American mind to think that the awakened conscience of a nation can overthrow a power which has moulded the nature of that conscience. The truth is that money only has power when Folly Number One is committed. Abolish the Folly and you cancel the power of money.

If a society bases its economics on the assumption that no man can receive a commodity till he possesses or procures the money to pay for it, those who control money are in a dominating position. But if a society bases its economic system on the assumption that a man can receive a commodity at any time provided that he can be trusted to produce in future a commodity of equal value, those who control money cannot ever get into a domintaing position. The former is the case among us; the latter will be the rule among the Hopousians. It follows that in Hopousia there will be no money-power.

If a society commits Folly Number One, a symbol invented for the

convenience of men becomes the controlling factor in their lives. The servant becomes master. Commodities are not produced because men wish to display their energy, but because the production suits the interest of those who control money. Conversely, if the production of a commodity conflicts with the interests of those who have the control of money, the production does not take place. The production is only undertaken when it suits money or for the sake of money. This inversion of things soon begins to affect and even to control the nature of wants. In the course of the cultural process wants change; but when money has power and a money-power emerges, the power of money is used to preserve and to create wants the satisfaction of which suits money. In itself, I repeat, money has no power at all; it is merely something that performs a useful function; but if Folly Number One is committed it soon attains power. Although Folly Number One gives a dominant position to those who have money, it does not give power to those who control money, and if Folly Number One was the only folly we committed, there would be no money-power in our society. The despotic, insolent, selfish money-power of which William Jennings Bryan spoke, is created by Folly Number Two. Folly Number One is the Fundamental Folly; without it Folly Number Two could never arise. But if a society commits Folly Number One, an opportunity is afforded for the commission of Folly Number Two, which I call the Supreme Folly, for it is surely the most foolish of them all. Since the Hopousians will not commit Folly Number One they will not commit Folly Number Two, for Number Two is the offspring of Number One.

Folly Number Two consists in the petrification of money and the granting to it of permanent existence.

What is merely a symbol is promoted to the status of an entity.

See also Appendix, *How Money Power Operates* (Folly Number Two).

Money

Money is created by commodities, for as soon as a commodity exists it can be expressed in terms of money.

In the white man's society, two faults are apparent:

(1) An erroneous idea of what money is, creates the idea that before human energy can be exerted, money must be forthcoming. The mistake is due to an inversion of the facts, the truth being that money cannot exist before social energy has been displayed.

(2) Money is created by other means than by social energy, of which money is only the mathematical or material expression. Thus some people, protected by laws, enjoy the purchasing power of money without reason. This money, having been created, has purchasing power; and in the white man's society there is a great deal of purchasing power which has been given to it by ill-conceived laws.

To these two faults, combined with the notions of taxation, inheritance, and land tenure handed on from our fathers, all economic evils are due.

Thus, *Folly Number Three consists in the issue of money without the production of commodities.*

Purchasing power should depend on energy. Now it depends on law or caprice.

The third folly is also apparent in the issue of notes and in the lending of other people's money.

ENGLISH BANKING IN THE EIGHTEENTH CENTURY

Concerning the issue of notes, in order to understand how they came into being, we shall have to refer again to Banking in the eighteenth century, which I touched upon in my paragraph on "Credit," and also in the chapter on Currency.

Cheque-currency and token-currency have superseded the old metal-currency, which has almost ceased to exist. So the nature of what is deposited in a deposit-bank has changed; but the principle of deposit-banking remains the same. And there is no doubt that many thoughtful deposit-bankers are greatly puzzled by the queer nature of their position. They genuinely desire to assist as much as possible in the process of commodity-production and commodity-

exchange; they realize too that the process is being considerably embarrassed by the limitations placed on their activities; but they cannot consent to change their ways till they are given some new "principles" in the place of those inherited from the old goldsmiths. And they are probably wise. Their policy may be dictated to them by the ghost of the dead past, but it seems better to act on some principle than on no principle at all which is what some of our enthusiastic reformers appear to wish.

In our mechanism of commodity-exchange, deposit-bankers are assisted by bill-brokers, discount-houses, and accepting-houses. These also owe both their existence and their character to chance. The services they perform vary greatly in different societies. In England internal trade is not facilitated by bills to the same extent as in France; most of the bills discounted in London are foreign ones; but whatever the nature of the business conducted by bill-brokers, they work in close co-operation with the deposit-bankers, who provide them with funds. Indeed they play together some delicious comedies, particularly one called "night-money," when, after closing-time, the brokers run around to the bank-manager and, like vultures over the dying, struggle for the hiring of funds that the manager has left on his hands overnight. In recent years there has been a tendency for the deposit-banker to usurp some of the functions of the broker, and in appropriate circles there has been much discussion about the desirability of the change; but we need not trouble our heads about it since in Hopousia the question of bill-broking will not arise. Bill-brokers, discount-houses, and accepting-houses came into existence as the result of the efforts to make a metal-currency work, and, as we know them, they will not exist in Hopousia.

In the study of the cultural process we must always be careful not to confuse the meaning we attach to a word and the meaning attached to it at other times. Words are constantly changing their significance, and the word "bank" is no exception. Nowadays, when a plain man speaks of a bank, he nearly always means a deposit-bank. And originally banks were places of deposit. But in the eighteenth century and in the first half of the nineteenth, things were different.

The great date in English banking history is 1844. Before then, and even for some time afterwards, bankers were thought of as men who issued currency in the form of notes. These notes were one of the

things our fathers invented in order to help their metal-currency do the work required of it; and if a bank did not issue notes it was hardly regarded as a bank at all, so great had been the changes since the end of the seventeenth century. Yet in the eighteenth century bank-notes were not legal tender, not even Bank of England notes; they were only made legal tender in 1833. And the Bank of England was by no means the rock-like institution that the Act of 1844 made it. Indeed, between 1797 and 1821 it refused to make any special payments, so great were the difficulties it experienced in the handling of a metal-currency. A similar situation existed between 1914 and 1925, and the effort to make a metal-currency work was finally abandoned in 1931, since when we have had a "managed" currency; that is to say, we do not now issue currency on any principle but as seems expedient and necessary. But what that currency is its managers do not care to inquire; and it may be said that, so far as our currency is concerned, we are living in a time of uncertainty and compromise. The engine has definitely broken down, and our statesmen are probably relieved if they can keep it from entirely disintegrating. They receive advice from many thinkers, and there issue from our printing-presses many pages of discussion and debate on the currency-question; the ideas contained in these books are not new but consist of variations on a theme which has been debated since the beginning of the eighteenth century. Between the founding of the Bank of England in 1694 and the passing of the Act of 1844, our ancestors were constantly tinkering with their system of currency-issue, and their methods and ideas have become part of our inherited tradition. The result is that the question of currency-issue is always discussed from the same old standpoint, and it is this standpoint we must abandon if we are to create an economic system satisfactory to the Hopousians.

We can best understand the ideas we must abandon if we consider what happened in the eighteenth and early nineteenth centuries.

The process of commodity-exchange is not regular and uniform but irregular and spasmodic. Like everything else in "nature," it works by jumps, and there is always a seasonable variation. When England was an almost exclusively agricultural country more currency was needed at harvest-time than at other times; that is to say, at certain times of the year men required an increased supply of the metal used as currency. Even to-day it would not be easy to move

great lumps of metal from place to place; in the eighteenth and seventeenth centuries it was impossible; and in many districts, at certain times of the year, there was a great shortage of currency. Men were energetic and keen, and wished to exchange an increasing number of commodities, but their efforts to do so were seriously handicapped because there was not available, in their district, enough of the metal used as the medium of exchange. Fortunately in each district there were one or two rich honourable men, brewers, merchants, clothiers, or yeoman, and these men came to the rescue. Instead of moving their supply of gold from the place where they stored it they issued pieces of paper on which they wrote a promise to pay metal on demand, and traders accepted these notes as a convenient substitute for the scarce metal. Everyone trusted the rich honourable men, who were, indeed, worthy of their trust; so at first there was no difficulty in passing the notes from one man to another, and soon the notes came to be regarded as a normal kind of currency. The labourers took them as wages and exchanged them for food and clothes; craftsmen accepted them in settlement of their due; merchants exchanged them for merchandise, the weavers for corn and wool, and so on. Moreover, if a yeoman had not yet received the full exchange-value of his harvest and wool, he went to one of the rich honourable men and borrowed a supply of notes, with which he settled his immediate liabilities, and purchased the seed for his next planting, and the fresh young ram for his flocks, and some of the new agricultural equipment that was then being invented. And when he received the exchange-value of his harvest he willingly accepted notes, which he returned to the rich honourable man and thus liquidated his debt.

It was in this manner that commodities were exchanged. Since metal could not be obtained men used the next best thing, a promise on the part of a trustworthy man to pay metal on demand. It would have been easier to use cheques, but it happened that cheques were not used. Certainly no man ever contemplated the abolition of metal as currency. And the new system not only enabled commodities but also an increasing number of commodities to be exchanged. Men who wished to extend their business or to enlarge their premises received the advances they required; merchants were provided with additional funds; builders, craftsmen, weavers, joiners, and producers of all kinds were able to conduct their affairs

with greater ease; worthy men who happened to be suffering from a stroke of bad luck were carefully nursed back to financial health; bankruptcies, which would have been local disasters, were avoided by generosity and foresight; the weak were supported, the strong encouraged, the brave rewarded, and the sluggard shamed before his energetic fellows. The rich honourable men, of course, got richer, and soon began to exercise a dominating control over local affairs. They could make men, break men, and generally do as they liked; but they were vital to the welfare of the community. Moreover, we must believe that at first they were really honourable; most of them were honourable all the time. Their history is full of the most splendid stories, and we ourselves should probably face our troubles with greater assurance if we had as high a standard of conduct as they had. Many of them, like the Gurneys of Norwich and Jonathan Backhouse of Darlington, were Quakers, who protected their good names with courage, resolution, and quiet honour. So strong was the tradition for honesty and care that they created, so jealous were they of their reputation that even after 1858, when the principle of limited liability was made legally applicable to joint-stock banks, little use was made of the privilege which was thought to reflect on the stability of the bank. In 1878, however, the failure of the Glasgow bank opened the eyes of investors to the risks they ran when their liability was not limited. Most of the shareholders in that bank were reduced to poverty, and soon afterwards every joint-stock bank became a limited liability one, for till a bank had made the change its shares were almost unsaleable. This was a full generation after the passing of the 1844 Act; and it seems impossible to exaggerate either the high standards of conduct that prevailed in the eighteenth century or the extent of the assistance which the privately issued notes gave to every kind of producer and trader. And it was not long before the occupation of issuing notes, originally undertaken as a side-line, became the most important part of the business. The descendants of the original men became the country bankers who, till 1844, supplied most of the oil by means of which alone the creaking engine of metal-currency could be made to turn round.

Now the country bankers would have rendered great services if they had merely issued notes to the value of the metal they possessed; and in all probability this is what they originally did; but

they soon began to issue as many as they thought they would be trusted for. There was no legal limit, and the country was soon flooded with notes that could not be covered by metal.

No blame attaches to the country bankers for what they did. Their riches naturally increased a hundred fold, for if a man is permitted to charge interest for the use of currency he has created out of nothing there seems to be no limit to the wealth he can amass. Besides, by accident or design, the Bank of England Charter had been so drawn up as not only to support the activities of the country banker but also to confine to a few men the privileges of being country bankers.

The Bank of England was originally a Whig institution, devoted to Whig interests, and desired by Whigs alone. The Tories hated the idea of it. Banks, they said, only existed in republics like Venice and among dissenters; and they would have nothing to do with the idea of forming a Bank of England. But the currency was in a deplorable state, worn and clipped, and the execution of batches of clippers did not appear to stop clipping. Moreover, the government, which had just ceased to be synonymous with the Crown, was in dire straits for money. Besides, dissenters were now numerous, and they were disgusted with the way in which the Lord Mayor sold offices, and with certain other practices that were allowed. They were strongly represented in the towns; and they demanded that something should be done, more especially (and this argument probably appealed to many of the Tories too) as there was some danger of the Pope coming to the rescue of the government if something was not done. So the Ways and Means Bill, which established the Bank, was passed. (It is said that there were only forty-two members in the House.)

As originally formed the Bank was nothing like it is now. It was a strictly private enterprise, out for profit, formed to lend twelve hundred thousand pounds of metal to the government, whose good faith was accepted as security. The rate of interest was 8 per cent; the Bank was to receive four thousand pounds of metal each year for managing the government's accounts, which became the Bank's concern; and in return for their generosity in coming to the government's rescue, the proprietors of the Bank were given various privileges. They were allowed, of course, to receive deposits from any client; on these 4 per cent was paid; but this was normal business and could hardly be regarded as a privilege. They were also

allowed to issue notes, and nothing was said about the convertibility of the notes; but this again was normal business and hardly a special privilege. The important privilege they gained was the concession that no other corporate body of men, "created or to be created," exceeding six in number, could issue notes. This was expressly stated in the Charter of 1708, and at that time, as I have said, men thought that no bank could possibly be run successfully unless it had the power to issue notes. So the Charter was interpreted as conferring on the Bank of England a monopoly of joint-stock banking. It certainly prevented the formation of a joint-stock enterprise to issue notes. So the country bankers, their sons, nephews, and partners, were able to pursue their lucrative activities without hindrance or competition.

And, lest we misunderstand what happened, let us remember that if the country bankers had not issued more notes than they could cover the value of the services they rendered would have been sadly reduced. The trouble with the metal-currency was not only that it was not available in the place where it was wanted but also, more importantly, that there was not enough of it anywhere. Every intelligent man realized the folly of an unlimited issue of notes, but he also realized that the supply of currency had to be increased somehow, and the issue of notes seemed the best method. The one thing that no man thought of was the abolition of metal-currency, and few men have thought of it since, in practice anyhow.

There was this argument in favour of the issue of notes without cover: so long as the banker's clients did not all demand metal at the same time, he was relatively safe, and one of the questions that every banker had to decide was how much metal he should keep in stock for every hundred pounds of notes that he issued. None doubted that a banker who had the right to issue notes was entitled to issue more than he could cover; the only question was by how much he could exceed his metal possessions. And even to-day economists write learned books about the amount of metal a man should have before he issues a hundred pounds of notes. In America the Federal Reserve Banks have to keep 35 per cent of their total deposits in cash; this ordinance is dictated by the ghost of the goldsmith who sits in the board room; but the Federal Reserve Banks are also controlled by another ordinance, equally haphazard in character: they cannot issue a hundred pounds worth of notes unless they have

forty-one pounds of metal. At least these were the original figures. There is no cogent reason why the figures should have been thirty-five and forty-one; they were merely intelligent guesses; and such a system of currency issue is called the system of the proportionate gold reserve, because the amount of the note-issue must always be in proportion to the amount of metal in the vaults. A similar system was created by "most learned and illustrious American and European Bankers" when they recently dictated a new banking system to the Germans. Under that system the Reichsbank was to hold thirty-three and a third gold or foreign exchange against its note-issue. Again, the figure was an arbitrary one, a guess; and it may be noted that the illustrious bankers were more strict with the Germans than they were with themselves, for they ordained that the part of the German issue not covered by metal should be covered by commercial bills or approved securities. The system has now crashed, and no one knows what the German system is; but the point to be noticed is that within the last decade the most learned and illustrious bankers in the world thought it necessary for a currency-issue to be based on metal. Indeed, throughout the world there is still a large assortment of gold standards (exchange of currency for gold), gold specia standards (local currency into gold coin), gold bullion standards (currency into bullion), and gold exchange standards (currency into foreign exchange alleged to be convertible into gold). If we remember the disadvantages of a metal-currency we cannot wonder that these systems are unstable; yet the societies that groan beneath the burden of such institutions never seem to doubt that currency must be metal and its issue based on metal. They perceive that metal will not do the work they require, so they try to patch it by these various methods, but they hardly ever think of discarding metal completely. In America the proportion of gold to the note-issue has often been changed; all to no purpose, except the profits of bankers. President Roosevelt has even been driven to adopt the old trick of debasing the currency. He has decreased the amount of gold in the dollar, so that the gold value of the public debts could be reduced and the banks could issue a greater number of notes. He has experimented with silver as well as with gold. He has "sold" securities to the banks and used the proceeds for public works and public relief. Yet he has failed. And it is not difficult to see the basic reason why he, and any other man who submits any

similar kind of "New Deal," must continue to fail; for he is merely trying to patch a metal-currency system, which can never be made to do the work he requires. To succeed he must first discard a metal-currency and then abolish the Four Follies.

For Notes on Joint-Stock see Appendix (Folly Number Three).

FOLLY NUMBER FOUR

Folly Number Four is the idea that Land is a Commodity.

WEALTH AND LAND

When I discussed human energy I made two submissions which for the sake of clarity I will repeat.

Wealth, I suggested, cannot be discussed apart from the question of land tenure. In the past, men have placed a value on land, have bought and sold land, and estimated a person's wealth by the amount of land he possessed. This has been the result of expansive energy. An expansive society has burst its boundaries, conquered less energetic people, taken their land and compelled them to pay tribute. Before they were conquered these people did not place a value on their land; it was simply theirs. So far as they could they would defend it against any stranger, but they did not buy and sell any portion of it. It was an integral part of their life; it never occurred to them to exchange it for goods or what we call riches. Their conquerors had different ideas and, being more energetic, they began to develop it, to sell its produce and thereby to place a value on each bit of it; and if the land was too poor to bear fruit, then the mere demands of tribute by the conquered people, being revenue, gave the land a human value, apart from a natural and potential value. Thus land that had no value at all began to have value, and the conquerors became rich from this very fact. That is the first reason why the question of wealth always raises the question of land tenure.

The second reason is that men cannot create things; they can merely reshape or rearrange existing material. This material consists of the resources that lie beneath the land, the natural products of the land and the organisms that live on the land; and when a society becomes productively energetic, it develops these resources, discovers new ways of treating material and creates an abundance of goods out of it. Less energetic societies neglect these resources so that they remain poor. Productive societies grow rich according to the extent to which they develop the natural resources; and their wealth consists in part of these resources.

If we remember these two simple facts our task will be greatly simplified. We have to formulate principles on which we shall

create the economic organization of our society. One point must be made before we consider exactly what goods and services are, and how they are exchanged; yet it is not a point so much as a request that I have to make; and it concerns land tenure. I wish to draw a rigid distinction between a house or building and the land on which it stands. Whenever I speak of a house or building without qualification, I shall only refer to the building itself. This distinction has not always been made and in my view much confusion has been caused in consequence. The distinction is vital to any discussion of private rights, which, we have seen, must be paramount in Hopousia. It is also necessary to clear thinking, first, because the land exists whether or not men occupy it, whereas houses and buildings are human creations; secondly, because a house, being a human creation, possesses economic qualities which land can never possess. It is these distinctions that hitherto have been overlooked, and this carelessness has been responsible for some of the greatest social evils.

In discussing goods, or the things used by men, we can safely rely on the distinctions drawn, if not always carefully defined, by the classical orthodox and the revolutionary economists. Goods are of two kinds, utilities and commodities.

In Hopousia (as theoretically in England) no one except the Sovereign will own land. A man will hold the land he occupies and no more. Land held in fee simple will not be able to be sold, nor will the holder be able to sell his rights over it.

For Notes on Land and Land Tenure, see Appendices (Folly Number Four).

BOOK III

Having decided that, in order that they may display the greatest amount of energy unceasingly, the Hopousians must exchange their commodities according to the Fourth Method of Commodity Exchange, and that they will use a cheque currency assisted by a token-currency, we must next decide the political and social structure which will enable the purpose of the experiment to be fulfilled.

Besides being in a state of folly economically, we are in a state of nature politically and socially. Our ideas about social and political organization do not control the nature of our social and political groups.

In Hopousia, if the purpose of the experiment is to be fulfilled, there can be no submission to Necessity.

BOOK III

CHAPTER X

Hopousia

SUB-DIVISIONS OF HOPOUSIAN STRUCTURE

POLITICAL STRUCTURE
- THE SOVEREIGN POWER
- THE STATE

ECONOMIC STRUCTURE
- NEWSPAPERS
- BUILDINGS
  - (*a*) Research Laboratories
  - (*b*) Cathedrals and Parish Churches
  - (*c*) Village Halls
  - (*d*) Hotels, Inns, and Taverns
  - (*e*) Houses and Flats
  - (*f*) Housing Activities of Municipal Authorities
  - (*g*) The Quality of Buildings
  - (*h*) Houses as an Investment
- FISHERIES
- ELECTRICITY
- TRANSPORT
  - (*a*) Merchant Ships
  - (*b*) Railways

SOCIAL STRUCTURE
- EDUCATION
- SEXUAL REGULATIONS

NOTES ON THE CREATION OF HOPOUSIA

ONE of the essential conditions for a display of great energy is that sexual opportunity should be reduced to and maintained at a minimum. This means that some groups will have to submit to compulsory restraints under penalty. But compulsory continence does not mean compulsory celibacy; the economic organization will have to allow those who wish to maintain their sexual opportunity at a minimum to marry at an early age. Among our professional men this is not possible unless a man has private means. The medical and legal professions, to mention only two, are organized in such a manner that a young man is unable to earn money till he is about thirty

years old. It is impossible to expect him to be celibate all that time; so he must either risk some derangement of his nervous system or satisfy his sexual urges outside marriage or in an autosexual or homosexual manner. For this outcome our economic system is directly responsible; for his inability to marry when he desires is due to the way in which among us the professions are organized. It follows, therefore, that in our hypothetical society, Hopousia, the professions will be organized in a different manner, otherwise the social and economic structure will not be fulfilling the purpose for which it is designed.

Again, our present social system, and our system of education too, is founded on the assumption that a man's aim in life is to place himself in such a position that other men may keep him in affluence while he is idle. Most men try, and all men are certainly encouraged, to make money, to save money, and then, if they can, to retire. The unquestioned manner in which this aim is taken for granted is one of the most interesting phenomena in our lives. We even judge a man's success by the age at which he ceases to be a productive citizen; if he retires at forty he is covered in social glory. Our greatest honours sometimes go to men who have never been productive at all.

Such standards of conduct and judgment are created by our institutions and could not exist in Hopousia. There the motives that lie behind human conduct, and the standards by which human conduct is judged, will be dictated by the purpose for which the society exists. Productivity will be applauded, inactivity questioned. Children will not be taught to praise the parasite and to aim at becoming parasites themselves. Black-coated workers will not be held in higher esteem than craftsmen; hand-workers will be protected and encouraged. Above all, a man will not be, as he is apt to be in the "planned economy" that is fashionable among us now, a mere peg to be inserted in a hole by some planning commissioners. He will be a unique unit of human energy, manifesting his inherent powers as he wishes in an environment specially created to irritate him as little and to encourage him as much as possible. Moreover, diversity, not uniformity, will be required, that human energy may manifest itself in any of the multitudinous forms it takes. For as time passes the most cultured stratum of the society will continually rise in the cultural scale, and no one will ever know what the new emergent

culture will be like. If diversity is not encouraged such a rise will be handicapped. If men are compelled to conform to some existing standard it will definitely be retarded.

It seems that the whole course of life will be different from what it is among us now; that is probably because our faces are at present set away from the direction of the cultural process. And perhaps one of the noticeable differences in everyday life will be the complete absence of those powerful but tacit assumptions which lie behind our conversation, speech, and writings. In Hopousia a man will not be praised or envied according to the shortness of his active hours; the people will not confuse either quality with quantity or occupation with work and employment. Indeed, the quality of energy will have to be steadily remembered, for it will be vital to encourage the exertion of energy not only in every form but especially in its most cultured form. Each member of the society will have to find it easy to rise in the cultural scale. To assist this rise, all possible drudgery will probably be assigned to machines, which will take the place that slaves have occupied in the past.

Since facilities for the display of human energy will have to be available to every citizen, the economic system cannot be allowed to prevent a man from displaying such powers as he possesses. Thus there can be no such thing as enforced idleness; for, if there were, the society would not be displaying its greatest energy and the economic structure would not be fulfilling the purpose for which it is designed.

Nowadays we hear much about "solving the unemployment problem." Some reformers even tend to regard it as part of what they call the "world-depression." They forget that enforced idleness was common in our society long before the alleged "depression" began. Even before the Great War large numbers of men were unable to find work; and it is probably true, as some economists have said, that a measure of enforced idleness is inevitable when a society has such an economic system as ours. Whether this is so or not, it is certain that there can be no enforced idleness with the Hopousian economic system.

Each person's environment, so far as the society is responsible for it, will have to be created for no other purpose than that of facilitating and encouraging the display of energy. The system of land tenure will have to be such as to enable a man to be secure without

being victimized either by a private landlord or by any municipal authority. As I said in "Folly Number Four," a man will hold the land he occupies and no more. Land held in fee simple will not be saleable, nor will the holder of it be able to sell his rights over it. The rights will be inheritable. Land will be held by each shire-reeve for the inhabitants of the shire. To allow the continued occupation of condemned dwellings will be impossible; and the cities will have to be designed so that the citizens do not spend a lot of their energy in getting from the place of their residence to the place of their labours. Such movement is culturally unproductive, and reduces the nervous energies of men, especially when, as is the case among us now, large numbers of persons have to travel to and from the same place at the same time. In Hopousia cities will have to be designed for the sole purpose of assisting a display of human energy.

The question of city design is a matter about which much could be said. We allow our cities to develop outwards; as we enlarge them, we do not pull down the old buildings but leave them standing, and add a ring of new ones, till the city sprawls over the countryside in bands of old and newly-built areas. In this manner we allow the city-dwellers to encroach on the land occupied by the country-dwellers and even to destroy the countryman's life. We also fail to abolish what is miserable and out-of-date. I think that the members of Hopousian society will proceed on the opposite plan. First, they will protect the country-dweller in the display of his energy. Secondly, they will insist on pulling down any building that does not satisfy their requirements.

We have seen that about every three generations, say every hundred years, the members of the society will probably rise in the cultural scale. This means that, as century succeeds century, they will become aesthetically dissatisfied with the buildings erected by their grandfathers. To record their cultural history, and for aesthetic reasons they will probably protect a few specimens of their grandfathers' art, but their eyes will not be fixed on the past so much as on the future, and I think they will undoubtedly wish to replace, at least once every hundred years, the vast majority of their old buildings. Besides, their architects and builders will require a continual outlet for their energy. The economic structure of the society will have to facilitate, if it does not compel, this work. If it fails

to do so it will not be fulfilling the purpose for which it is designed.

Again, usury, which has existed in every past civilization and is a time-honoured institution among us, cannot be allowed to exist as a social institution. A person who receives usury is able to live without displaying energy; a person who pays usury is deprived of the full products of his energy. For both reasons the economic system, if usury were part of it, would be defeating its own purpose. And the disappearance of usury will involve the disappearance of cash discount, which is a bastard son of usury. Our traders say, "Money is always worth sixpence in the pound"; so they are usually ready, if not anxious, to give two and a half per cent discount for cash. But in Hopousian society such aphorisms will be laughed at; money will have no price at all. As for loan capital, it is like a tourniquet round the veins of a society and stops the flow of energy to an extent we hardly dare admit. In Hopousia it can surely have no place.

Another difference between our own economic system and that of Hopousia is that we continue to finance what we call our "government" by a system of taxation. Nearly one-fifth, and sometimes more than one-fifth, of each person's income (unless the expense of collecting it would exceed the amount due in tax) has to be paid to the government. I do not think that such a system will be allowed in Hopousia. There is a danger of a man being discouraged in the display of his energy if he is deprived of so large a proportion of his monetary reward. The finances of Hopousia will have to be arranged on a different basis.

The few examples I have given are enough, I think, to show that, if a society decides to display the greatest possible amount of energy unceasingly, its structure will have many interesting features, which some reformers may regard as desirable for their own sake, apart from the cultural results they will produce. The Hopousians are people whose social, political, and economic institutions will be designed in such a way as to produce and facilitate the display of the greatest possible amount of social energy. Our experiment consists in the creation of those institutions.

But human powers, though great, are not great enough to create something out of nothing—a matter which the so-called creators of "ideal" societies always forget. All men can do is to reshape existing material. We have first to decide what the required structure will be;

we have then to select an existing society as our raw material and recreate it in the required form. This consists in changing its present structure into the Hopousian one; and the details of the change will obviously have a dual character: we have not only to create such conditions as are necessary for the production and unceasing display of the greatest possible amount of energy but also to remove from the raw material any conditions that at present prevent or handicap a display of energy.

As our raw material it seems preferable to choose an energetic society, for in that case the cultural results, which are the things we want to produce, will sooner emerge. And I suggest that we take our own society, partly because we know more about it than about any other energetic society, and partly because if we were to select any other society our motives might be misunderstood.

Hopousia, then, is Great Britain after its social, political, and economic structure has been changed in such a way as to create and to facilitate the display among the British of the greatest possible amount of energy unceasingly. But I wish to add that there is nothing peculiar about the British nation, except our own membership of it, that it should be chosen as our raw material. The selection is not due to necessity but to tact. It would be equally possible to perform the experiment on any other society; the principles and the results would be the same. The only difference would lie in the manner in which the principles were applied and in the time taken to do the job.

As I have said in Chapter VIII, after the experiment is complete, we shall find that the conditions regretted by our reformers begin to disappear, and that those they profess to desire begin to prevail. But, for reasons best known to themselves, our statesmen, politicians, economists, captains of industry, trade union leaders, newspaper editors, and all others who have the ear of a wide public, unite in saying that the present economic state of our society is due to "world-conditions." Our "problems," as they call them, are "world-problems." We cannot "recover" alone. The "world-depression" will only be lifted by the united effort of all the peoples in the world.

The emphasis with which our public men make these assertions is probably derived, at least in part, from their need to reassure themselves. There is nothing like nervousness to make men shout, nothing like a common failure to unite them. But the opinion I have quoted cannot be dismissed so easily as that; for, if our public men

are right, our experiment cannot possibly have the results that I have foretold. I do not doubt that economically our society is influenced by the economic condition of other societies. I also recognize that if one society prospers other societies begin to prosper too. But to say that one society cannot prosper because other societies are not prospering is, in my view, great nonsense. At any rate, whatever other societies do, the Hopousians will prosper. Are they not *ex definitione* energetic men?

I adhere to my statements about the result of the experiment, and, in conducting it, will assume a state of territorial fixation and a static condition of external trade. This means that our work will be limited in scope, but it will not be embarrassed in any way; nor will its results be affected. The acceptance of the limitation merely means that we shall be precluded from discussing any inter-society relations.

For the purpose of the experiment, then, we must assume that the society selected as our raw material, that is, our own society, is unable to expand further into other territory and cannot increase or decrease what an orthodox economist calls its "balance of trade." With other societies its relations will remain as they are now, "now" being the moment when you read these lines.

We shall more easily banish every kind of personal and perverse judgment if we imagine that British society, in its present state (1936), is lying in front of us, waiting for the experiment. We ourselves are members of it, and consequently have many personal prejudices. These are all right in their place, and most enjoyable things to indulge, but they have no place here. For the purpose of conducting the experiment, we must gaze at our society from a point outside it. Standing outside it, we no longer feel but only think; and we must think directedly. Our standards of judgment must not be our own; they must come from outside us. We can no more accept the tendencies of our age than the temperamental standards of any individual citizen. All our personal wishes and desires, our whole inner selves, must be forgotten. Emotions must give place to intellect, sympathy to relentlessness; dreams to observation. Our sole criterion must be the creation and the unceasing display of the greatest possible energy. By that criterion and that alone will everything be judged. Only those conditions, and all those conditions which create and facilitate such a display, will prevail in Hopousia.

SUB-DIVISIONS OF HOPOUSIAN STRUCTURE

British society is in a state of nature. Its structure has never been designed but has merely chanced to happen, or has "evolved"; so its institutions are like everything else in Nature, wasteful and haphazard. Between the groups that compose the society there is great conflict. That is another characteristic which is typical of Nature in all her unaided work.

Experimentally we are going to change this state of nature into the state I have called Hopousia. The first thing to do is to decide what the structure of Hopousia will have to be. The three divisions of structure are: political, economic, and social. We will discuss the political structure first.

POLITICAL STRUCTURE

I have said that the political structure of the historical societies is seen to have changed according to the relative energy of the groups composing the society. If we look back along the stream of our own history, and examine the historical career of the Romans, we find that about every five or six generations, say one hundred and fifty years, there was a change in the political structure of the society. The changes occurred because the relative energy of the groups changed.

When a certain clan dominates a society, two factors are responsible for its dominance, its own energy and the comparative lethargy of its subjects. The clan secures its dominating position because it has a greater relative energy; and the amount of energy it afterwards displays is immaterial provided it is not less than the energy of those it dominates; but if it loses its energy, or the energy of its subjects increases, the sovereign power is transferred to some of those that hitherto have been dominated: those that now possess the greatest relative energy. This is what happened when the patricians expelled the rex, and when the newly-created nobles of the sixteenth century took the power away from the Tudor monarchs. If in its turn the new dominant group retains its greater energy, it also retains its dominating position, like the *ari'i* in Polynesia: but if its energy decreases or that of its subjects increases,

it has to give place to those it has dominated. The former is what happened to the English squirearchy in the early nineteenth century; the latter was the case when the plebeians began to share with the patricians the power to rule Rome. If no large group possesses a greater relative energy, a state of despotism appears. That is what happened after the decline of the provincial bourgeoisie that dominated the Roman Empire at the end of the first century A.D.

Recognizing that in the past, so far as could be judged from the evidence, these groups had risen and fallen according as they had restricted or extended their sexual opportunity, I thought it would be worth while to investigate the political structure of uncivilized societies, to see if there was any correspondence between the factors among them. But I had to abandon the attempt. In anthropological writings the words "chief" and "king" have been used in such a vague manner that the available evidence is of a poor quality. Most Polynesian societies when we first meet them, appear to have been ruled by an aristocracy, *ari'i*; but some of these aristocrats seem to have enjoyed absolute power in their areas, and there can be no doubt that some students would call them "kings," or at any rate "kinglets." What is certain is that each deistic society was ruled by a "king." On the other hand, some manistic societies, like the Banyankole, also had a king. Most people would also apply the word "king" to the Shilluk *ret*. We may say, therefore, that sexual opportunity has no relation to the rise of kingship. But in saying this we must remember that this kingship, of which the Hellenic *basileus*, the Roman *rex*, the Uganda *kabaka*, the Banyankole *mugabe*, and the Shilluk *ret*, may be taken as examples, is not so much a political as a religious office. The man is the leader but not always the ruler of his people, though he often seems to rule them because he leads them. In each one of these societies the "king" did not have absolute power to act as he liked. Indeed he was sometimes killed before he was old so that the people should not suffer from any diminution in his magical power.

Changes in the relative energy of the groups composing a society are responsible for changes in the political structure of a society after kingship has been abolished, but they are not responsible for the rise of kingship. There is not much evidence about the political structure of uncivilized peoples. What evidence there is suggests that the office of "king" as understood in early Hellas and Rome, in

Uganda and West Africa and Sudan, fulfils a need felt by peoples in such a state of energy, and which is little understood by us to-day.

The Sovereign Power

The political structure, as I use the term, includes (1) the allocation of the sovereign power, and the organization of the administrators that serve the group possessing the sovereign power; (2) the relationship between the society as a whole and such territorial units as the people are divided into: parishes, cities, burghs, and shires; (3) the administration of the territorial units; (4) the expenditure of the groups that administer these units.

If we look back along the stream of time, and notice the conditions under which great human energy has been displayed, we cannot help being struck by the fact that human societies have flourished to the greatest extent when they have been dominated by a class which may here be called an aristocracy. The reasons for this are sufficiently obvious when we consider them, but I do not propose to discuss them, for I am less concerned with the details than with the general character of the political structure. The point I wish to make is that in Hopousia the sovereign power will certainly be in the hands of an aristocracy. It cannot be possible for the uncultivated members of the society to dominate their cultural superiors by sheer weight of numbers. The aristocracy will consist of the persons that occupy the highest position in the cultural scale. Membership will not depend, as has been the case in the past, on the accident of birth; membership will have to be open to any one who cares to qualify.

The creation and identification of this aristocracy seems to be a simple matter; and, for the sake of completeness, I offer a slight sketch of it.

Human energy can only be displayed under conditions of compulsory continence; and the amount of energy displayed by any society, or by any group within a society, depends on the intensity of the continence it suffers. Owing to the influence that the early environment exerts on adult behaviour, an extension or limitation of sexual opportunity does not have its full cultural effect in less than three generations.

Let us suppose, then, that we have two separate human groups, each of one thousand persons, and that we subject them to the influ-

ence of different sexual regulations, assuming in each case complete legal equality between the sexes. The evidence is that in the third generation the group that suffers the more intense continence will display the greater energy, and occupy a higher position in the cultural scale, than the group that suffers the less intense continence. If at first both groups are sexually free (outside the prohibited degrees), and consequently in the same cultural condition, in the third generation there will be a difference in their cultural behaviour. If we allow group B to remain sexually free, and insist that all the women of group A shall be pre-nuptially chaste, in the third generation group A will begin to erect temples to a god, while group B will remain as they were. If the men of group A are then limited to one wife, who never knows another man, the next generation born in that group will begin to display expansive energy; and if these rigid customs are retained for another generation or longer, group A will rise in the cultural scale and begin to display productive energy.

These rules are group rules; they do not necessarily hold good for individual men and women. It is not possible to formulate any laws in regard to the behaviour of individual persons, for we cannot collect and appraise the evidence on which such laws might be based. To a great extent every individual is a social product; he behaves as he is observed to behave because he was born in a certain place at a certain time and has had certain experiences; but during the course of his life these experiences are so multifarious that it is impossible to record them; and we can never tell, as we consider a man's behaviour, whether the particular item that attracts our attention is due to a special occasion or to the accumulated effect of a multitude of occasions. All we know is that each individual person is a unique product (for his particular combination of experiences can never be repeated again in the order in which he suffered them), and that his adult behaviour is often the result of interplay between past and present emotions. It is possible to predict with some accuracy how any person will react to any given set of circumstances, but it is impossible to formulate any general law that will apply with equal truth to more than a few individual persons. If, however, we consider the society as a whole, we find that the apparent caprice of its members ceases to be a controlling factor. The pattern of a society's behaviour can be predicted with assurance.

Now let us suppose that our two groups, A and B, instead of being

separated, are united in one society; then we shall have the condition that, as I conceive it, will exist in Hopousia. I do not see what right a society has to compel its members to behave in any one way. Some consider that a society does possess that right, but they never explain whence the right is derived. In Hopousia, no man and no woman could be compelled to be continent if indulgence were preferred. Thus I think that there will have to be two forms of marriage, alpha and beta. The alpha form will demand pre-nuptial chastity, and, as long as each partner is capable of attending to the other partner's needs, each association will be life-long. The beta form will be a free mating, terminable at will and demanding no pre-nuptial continence. Each citizen will be free to choose which of the two forms he prefers; but he or she will have to take the consequences of the choice. If the alpha form is chosen the two partners and their children will be members of what may be called the alpha group; if the beta form, they and their children will be members of the beta group. And the most uncompromising compulsion will have to be exerted on the alpha group, for men are frail, especially when matters of sex are concerned. Just as a rope between climbers acts as a brake when a slip takes place so the rigid rules of the alpha marriage will prevent many a catastrophe.

Under these circumstances the alpha group will always display a greater energy, and occupy a higher position in the cultural scale, than the beta group. They will form, indeed, the cultural aristocracy that we require.

It seems probable that the identity of the families in the alpha group will continually change, and that the group will be continually replenished from below. Such ebb and flow seems inevitable. When intense compulsory continence is the rule many parents are unable to behave in the manner that enables their children to adjust themselves to the social and cultural environment; thus there is a tendency for the children to rebel against the conditions of their parents' lives. This may be different when continence is imposed not through shame or through fear of an angry god but for the sake of the cultural results that will ensue; but even then I doubt if the members of any family will remain in the alpha group for more than three generations. As a result of this continual movement from one group to the other, the alpha group will sometimes be in a majority, at other times in a minority.

Will the members of the beta group be disenfranchised? I do not think so. There is no evidence, of course, that men value enfranchisement; if that were so they would never need to be persuaded to take advantage of the privileges of enfranchisement. What they object to is discrimination in other men's favour. They have no definite urge to vote; but they do not like being deprived of the right to do so. I conceive, then, that if in Hopousia votes are cast on political occasions, the members of the beta group will be invited to record their opinion; and that in order to secure the dominance of the alpha group an alpha vote will be worth, say, ten beta votes. But this proportion will have to be altered if the beta group are ten times as numerous as the alpha group. This, I fancy, will be highly improbable.

The aristocracies that in the past have dominated human societies have always been held together by invisible bonds. These invisible bonds may be compared to those that hold electrons and atoms together and preserve a chemical substance as an entity. The bonds that perform this service in a human society are common interests, common manners, common standards of judgment and value, common conventions, and common laws. I take it, then, that this will be the case in Hopousia. The organization will be fluid and plastic, like the Cosmic Process itself, and out of this condition of fluidity and plasticity new cultural forms and new standards of judgment will continually emerge.

The State

We use the word "State" not only to denote a kind of abstract idea of government in general but also the governing authority. We derive this idea partly from Plato, partly from Herbert Spencer, partly from tradition. Louis XIV's "L'état c'est moi" was a reflection of it. Rousseau's theory of the "contrat social" was based on it. All forms of socialism assume it as an axiom.

We ourselves live in an age when the State is becoming paramount. To an increasing extent things are being done in the name, and for the sake, of the State. Indeed, I think it would be true to say that our reformers, who reflect the nature of our age, can think in no other terms. We give money to the State, and the State is even regarded by the less instructed as having an inexhaustible supply of money. The men that control our basic industries have got into such a confused

condition, and are so incapable of seeing their way out of that condition, that they crawl to the State for assistance. We endow the State with greater and yet greater power, with the usual inevitable results. Our law is rapidly ceasing to be a vehicle for the redress of injury, and is becoming a set of rules, the number of which increases annually. Spies have to be appointed to see that the rules are obeyed; corruption is the result, for a spy can be paid to look the other way. We encourage our citizens to humble themselves before the State, to rely upon it to solve all the little puzzles of their daily life, and to regard it as the source of all blessings. All this conforms to the usual inevitable pattern. If we wish to have a fair picture of what, according to present tendencies, will happen among us in the next three generations, we have only to study the organization adopted by Diocletian and Constantine. No savage ever had a greater faith in his magician, nor an Indian proletarian in his Prince, than that which our grandchildren will have in the Great State Officials. And the first signs of that faith are already apparent in many aspects of our present life.

As a result of this many of us are inclined to regard the State as a necessary phenomenon. Let it be said, then, that the State is not a cultural necessity at all, but merely a political unit that is interposed in certain cultural ages. It does not always exist, but only appears when the conditions are ripe. These conditions arise when a clan or a group wishes to strengthen its hold upon the society, and when its victims are too sluggish to prevent it. A society, united by forces that are comparable to those that preserve a chemical substance as an entity, can hold together without the State; and this will be the case in Hopousia. Just as the electrons and atoms that form a gas need no centralizing unit to hold them together, so Hopousian society will hold together without being subjected to the control of an interposing State. If the lattice work of the structure is designed in accordance with the nature of things there will be no more fear of social disintegration than there is of the disintegration of an atomic nucleus. There will be a community in the sense in which there was a community in the time of Cincinnatus, but there will be no State as there was in the time of Diocletian and Constantine. The structure of the society will be an elastic one in which men can live their energetic lives as they think best; it will not be an iron cage such as feudal lords or Oriental despots impose, or as socialist reformers wish to impose.

The reason is a simple one; the existence of the State handicaps the display of social energy. Much energy must be exerted in maintaining the State in existence and in rewarding the spies for their services. Thus in a political structure designed to facilitate the display of energy such a burden could not be tolerated.

There are other reasons also for thinking that in Hopousia the State will not be allowed to exist as a controlling entity. I will mention one or two of them, for this will enable me to speak of other, and equally surprising, details of the political structure.

When the State becomes more important than the individual centralization is the rule; and I am confident that in Hopousia decentralization, and as much decentralization as possible, will be vital, so that the greatest possible number of persons can indulge their will to power. The will to power is one of the most important ingredients in human energy; it springs directly from the three unique powers of which human energy is the manifestation; and much credit is due to Alfred Adler for pointing out that men's nervous systems are often deranged because their will to power has been smothered instead of satisfied. There is that in a man which makes him desire to have his hour. If he is deprived of it, and treated as a mere cipher, a void is created within him; this void is filled by feelings of rebellion and irritation. But if he has his hour he is content, and in his later life looks back upon it with pride, and rejoices to compare it favourably with those of his predecessors and successors. The political structure will have to allow for this intense anxiety to be, or at any rate to appear, important. Thus decentralization will have to be the rule. The administrators of each territorial unit will have to possess complete power and responsibility within as wide a bracket as possible.

At the same time we must remember that in every person there are other inherent tendencies besides the will to power. Adler, perhaps, is apt to forget this. Or is it that he only lays a supreme emphasis on the existence of the will to power, and on the harmful effects of its suffocation, in order that we may never forget them?

The question of responsibility raises another important issue. When the State is paramount, and centralization the rule, personal responsibility is inclined to be absent. An official does not act in his own name, and on his own responsibility, but in the name of his

superior who thus assumes the responsibility for the conduct of his subordinates. This is also true of such centralized organization as the trusts that now control the production and distribution of our commodities. Some of them are decentralized; but centralization is rapidly becoming more common. In reply to our humble inquiries, we receive from an uninterested junior clerk a printed form saying that his chief will attend to us in course of time. The result is, first, that there is no great need for assiduity, and, secondly, that the junior men are mere cogs in a large wheel of which no part is their very own. It is this second aspect of the case that is the more important.

When a man displays his potential powers he is related to his work as creator to created. Watch a sculptor's face as he looks at the work he has done. If he is pleased with it he experiences, and his face reveals, a joy that is unparalleled. The work is himself, and has been well done; he therefore loves it. And it is the same with any other activity that has demanded the use of our inherent powers: "I did it; it is good; and I feel glad."

In these days of hyper-organization, of despair and insecurity, and of the lassitude that is born of compulsory obedience to captious rules and ordinances that impose severe limitations on our activities, it is hard to remember this; but the truth remains. With a thing that he has created, or helped to create, if it has pleased him, a man has an intimate relationship of a kind that he delights to experience. The power of creation is within him; he is urged to live according to his nature. If he does so he possesses a unique joy; but if he cannot project his powers into something satisfying, his nature turns on him, and he becomes restless and ill at ease.

The man that occupies a humble position in any organization is made as other men are made. He too delights to see around him something that he recognizes as his own. If his department, firm, company, or trust is organized in such a way as to deprive him of that joy, he is apt to lose his faith in life, to take to drink, to indulge in bodily excess, or to attempt some other way of ridding himself of his vague dissatisfaction. Such behaviour is a direct result of the circumstances under which he works and it reduces his cultural value. Thus in Hopousia personal power and responsibility will have to be the rule, that all men may have the joy and encouragement of seeing and of living with the results of their personal

labours. Every man will have to be given the widest possible bracket in which to act and express himself.

I will mention two other reasons why in Hopousia the State cannot be allowed to control the activities of individuals.

A human society is not merely a collection of groups; it is a collection in a certain state of energy; and the behaviour of each group depends on the amount of its energy. This varies between wide limits; and as the energy of the whole society increases or decreases new groups are formed, appearing as if from nowhere; old groups disappear; and the character of the society changes accordingly.

In Hopousia, with its ever-increasing energy, new modes of behaviour and new activities will continually be adopted. The new ways will always conflict with the old ways; and towards the new ways sluggish minds will always preserve an attitude of opposition and derision. No man will ever know what the next generation is going to produce; and history teaches us that what at first seems insignificant often assumes immense importance in later days, and what at first is derided is later welcomed. If the State were allowed to say what should or should not be done, the cultural career of the society might be absurdly handicapped. The fluid, plastic character of the cultural process would be hardened and destroyed; new inventions and new methods would stand little chance of being put into practice. Far-reaching changes will take place in the tastes of the people, who will desire to make similar changes in their occupations and to surround themselves by commodities of a different character from those that their fathers possessed. If the State planned everything it would be likely to be conservative in those very things that demanded the greatest amount of risk and enterprise. Energetic individuals are always ready to take risks; enterprise is inherent in them; and for this reason, in Hopousia, the State cannot be allowed to interfere with them. The political structure will be the widest possible context for the greatest possible number of individual meanings.

For the same reason the State cannot be allowed to levy taxes on any person in his private capacity. As I study the activities of men as they are reported to have been in the past, I am always astounded by the lack of mental resilience that reformers have displayed. The taxation of the private person by the State is a relic of feudal dues, of kingly rights and privileges, and of other institutions that them-

selves have long ago been discarded. Yet the idea of taxation remains; no society has yet conceived of any plan by which it can finance its public expenditure other than by levying taxes on private citizens. In Hopousia such a thing would be unconstitutional, for by depriving a man of the products of his energy taxation might discourage him from displaying that energy.

I do not imply that the political structure of the society will be "better" than our own has been or is, for in such a context the word "better" has no meaning. My point is that it will be different, and I have tried to indicate wherein some of the differences will lie. These differences can easily be summarized, for they arise from the substitution of design for development, of direction for drift. Our political structure has developed, and will continue to develop, according to the laws that control the cultural process; that of Hopousia will be designed for the purpose of assisting the direction of that process.

For Notes on Hopousian Political Structure see Appendix.

ECONOMIC STRUCTURE

Under the heading of *economic structure* I include the system of land-tenure; the income of the groups that administer the territorial units; the income of the social professions; the production and the distribution of commodities; and the organization of the professions which help to produce or to distribute commodities. These are the *economic professions*, and include architects, engineers, and accountants.

The difference between our methods of commodity-exchange and the Hopousian method is that, whereas we exchange our commodities according to one of the first three methods I described in Chapter VIII the Hopousians will mostly use the fourth method, which we do not use at all. Even if we wished to use it we should not be able to do so; our institutions would forbid it. In our minor transactions we use the first and second methods, but our economic system is based on the third method. In some of their minor transactions the Hopousians too will use the first and second methods;

on rare occasions, which we shall discuss later, they will even use a modified form of the third method; but their economic system will be based on the fourth method. Their institutions will be designed accordingly.

Doubtless some persons will hardly credit a method of commodity-exchange with having much influence; they may even be incapable, or at any rate reluctant, to think that we could exchange our commodities in any other way than the one we now use. In this they are mistaken; but I confess they have some reason for their error. Our politicians and reformers have a habit of ascribing to this or that *ism* the full responsibility for the conditions they praise or deplore; the result is that many persons have come to the conclusion that each *ism* is a definite force that works in the economic world. In the minds of these uninstructed people there is a vague conviction that if all is not well, this or that *ism* will put it right. But what "right" means in that context and what in practice the *ism* denotes is usually far from clear. It certainly does not include any alternative to such an unexciting thing as a method of exchanging commodities, which, not being an *ism*, has no attention paid to it. The vagueness of many isms is now becoming plain to more acute observers, who retain, however, an inclination to search for "better" things. After becoming acquainted with the Hopousian system they may conclude that it is a "better" system than our own. From such opinions I must dissociate myself. The Hopousian system will certainly be different from our own, but whether it will be "better" depends on what "better" is held to mean. Every human society is free to choose what kind of economic system it will have, but it can only do so on the terms that Nature always imposes: it must take the consequences of its choice. As it sows, so it will reap. From this condition there is no appeal. If we wish we can continue to exchange our commodities as we exchange them now; but we must take the consequences. If we wish we can adopt the Hopousian method; we should get our reward. But we should also have to pay the price. If we decided to adopt the Hopousian method we should have to take the Hopousian structure, social, political, and economic, as a whole; we could not be allowed to select the parts that suited our temperaments and to discard the other parts. To take a bit here and a bit there and to leave the rest because it looked as if it might be unpopular is forbidden by the nature of things. It would be as

reasonable to think we could make a reliable motor car by selecting a cylinder from one kind of engine, a valve from another, a gear-box, a differential, a chassis and a body from as many different engines again. The result would not be a thing that "worked." Even so the structure of a society would not "work" if it were a mere collection of parts arbitrarily selected according to the temperaments of the assemblers.

We have seen that within a society human beings naturally sort themselves into groups of various kinds, and we may suppose that within Hopousian society there will exist a number of economic groups, the members of which will be held together by their common interests. I call their economic groups *gilds*; though do not think, because I revive an old-fashioned word, that the Hopousian gilds will be like the Roman *collegia* or the Christian *misteries*. Before we discuss these gilds we will consider the general outlines of Hopousian economic structure. We shall see in what ways it will differ from our own.

Daily and Weekly Newspapers

The men who produce a newspaper are those that write it (journalists) and those that print it (printers). In Hopousia these will be members of the Journalists' Gild and the Printers' Gild respectively. Normally the Printers' Gild will own all the commodities used in printing; but the machinery used for printing newspapers differs in many ways from that used for other forms of printing; so I am inclined to think that in Hopousia the journalists will own, or at any rate control, the commodities that help them produce their commodity.

In Hopousia the function of the journalists will consist in conveying to their fellow-citizens a description of and a commentary on current events. The comments made by some of them are likely to differ from the comments made by others; different persons will also have different ideas about the significance of any event. So I think that those having the same outlook will probably form themselves into a separate sub-gild (so to speak) and work together. At any rate, if they wish to do so, they will certainly be encouraged; for diversity in all forms of human activity will accord with, while uniformity and centralization would conflict with, the purpose for which the society will exist.

It is probable, too, that the newspapers will contain other matter besides a description of and a commentary on current events. The more energetic a society, the more diverse the character of its literature. Some of this literature is ephemeral, written to be read at leisure for the sake of mental relaxation, and of little interest except to persons living there then. Most novels have this character, and the Hopousian daily and weekly newspapers will doubtless publish a great deal of such literature.

The commodities required to produce the newspapers will be made by the appropriate gilds. When the Journalists' Gild or any of its sub-gilds want, for example, a new printing machine they will not be required to pay cash for it; the purchasing-power to be given in exchange for it will be issued to them by the Bankers' Gild, provided that the journalists are judged (*a*) to be trusty men who will keep their word in the matter of future payments, (*b*) to be capable of repaying the money on the agreed terms. To every transaction there will be attached a condition that, as soon as any printing machine or other such commodity has been paid for, it will be discarded and another one purchased to take its place.

Under these circumstances the Hopousian journalists will plainly be free to produce their commodity in the way that seems best to them. The nature of their outlook on current affairs will be the only factor to control the character of their paper, always assuming that a certain number of their fellow-citizens are sufficiently interested in that outlook to purchase the paper.

In our society things are different. Owing to our commission of Folly Number One our journalists are unable to obtain delivery of a new printing machine unless they can pay cash for it out of an existing supply. If they themselves do not possess the necessary purchasing-power they must hire it from the persons who have it. The result is that our newspapers are not owned by the men who produce them but by the persons who pay for the means of production. The men who published our first newspapers were persons of strong convictions who themselves edited their publications; a few such newspapers still exist. But nearly all our newspapers are now controlled by those who possess or control the purchasing-power exchanged for the means of production. Journalists are the paid servants of these persons; and the result is that they are not free to produce their commodity as seems best to them; they are con-

trolled by those who paid for the means whereby the commodity is produced. The sole qualifications these persons seem to have is their erstwhile possession of money.

The difference in the position of the Hopousian journalists and our journalists is due to the differences between the two methods of commodity-exchange. Our journalists are the paid servants of moneyed masters because we commit Folly Number One.

See also Appendix, Folly Number Two, "How Money-Power Operates."

Buildings

This is a large subject; and let me say again that I am not discussing the land on which a building stands, or the raw material of which it is made, but the way in which the consumers of a building come into possession of it. I consider five different kinds of buildings.

(a) Research Laboratories

The extent to which the members of any society control the external world depends on the amount of energy they display. Before men can exert any appreciable control over the material and biological processes they must obtain a knowledge of the way in which the events in these processes behave. In an energetic society such research is of paramount importance. When an ordinary citizen uses a wireless set or sees a neon tube he is apt to think that these things owe their existence to the energy of wireless-set manufacturers and electricians; but the truth is that the manufacturers and electricians are merely applying to their raw material the knowledge gained by research workers. No wireless set could ever have been built if Maxwell had not published his equations; no neon tube would appear in our streets if Ramsay had not discovered the gas that the electricians put into the tube. We hear much about the conquests of science, but few persons realize that the supreme conqueror is the quiet research student in his laboratory.

Ex definitione the Hopousians will regard research as a most important factor in their economic life. Here again diversity and decentralization, not uniformity and centralization, will have to be the rule. From the Hopousian point of view it will be preferable to have twenty independent research workers in twenty laboratories than

forty in one laboratory under a unified control. We cannot yet decide how these workers will receive the monetary equivalent of the energy they display, but we can understand how they will obtain their equipment. Whatever its nature it will come to them direct from the gild that makes it; as soon as it has been completed and delivered the Bankers' Gild will issue the money for it. Each year the gild for which the research students are working will repay an agreed amount of the cost; the scale of payments will be arranged according to the estimated life of the equipment. When a payment is made the money will be debited to the gild's current account and credited to its account in the money-issue ledger. It will also be credited to the Money Issue Account. When the equipment has existed for the length of its estimated life, it will have been paid for, and, so far as that transaction is concerned, the money-issue accounts will balance. The equipment, whatever its nature, will then be broken up; a new lot, probably of a different nature, will be delivered.

In our society, owing to our commission of Folly Number One, research workers are greatly hampered by a lack of suitable equipment. According to our method of commodity-exchange if the equipment for research is not obtained from a philanthropist it is only to be secured from the taxpayer. The central government, like a feudal lord, levies a tax and hands over a part of the proceeds to an *ad hoc* body. But from the standpoint of an energetic society this is an unsatisfactory way of doing things, for it is not good that research funds, which limit the amount of research that is done, should be controlled by philanthropists or by politicians. Only scientists understand in what direction research should be encouraged; most "practical" men have scant sympathy with the notions and aims of the research student. To give the final decision about scientific research to a body of "practical" men is to hamper research by ensuring support for such research only as "practical" men feel they can approve. Besides, if research is controlled by a government, the organization is pyramidal in shape and bureaucratic in character; in that atmosphere a research student finds it hard to exist. The result of our method of commodity-exchange is not only to limit the amount of research and to subject research workers to the whim of rich men, but also to give them the status of servants to a bureaucratic master. True, the latter is not the case in our universities,

whose organization is neither pyramidal nor bureaucratic. But our universities are not allowed to spend much of the taxpayers' money on research, and such grants are only obtained in small amounts and with difficulty. To provide their research students with equipment our universities rely for the most part on philanthropists.

Among us research into the nature of such diseases as cancer, tuberculosis, and psychosis depends almost entirely on the whim of philanthropists. Agricultural and horticultural research is almost non-existent; yet there is every reason to believe that such research would increase the yield of our acres. And for the lack of it our method of commodity-exchange is responsible in so far as, according to our ideas, the money required to purchase buildings and equipment must be obtained out of an existing supply.

(*b*) *Cathedrals and Parish Churches*

Every society with a strong deistic stratum requires a supply of buildings in which its members can maintain, in a manner they think proper, a right relation with their god or gods. Rationalists usually despise both the intellects and the emotions of those who want cathedrals and churches, but it is not a scientist's business to judge what people want. He must take people as they are.[1] Besides, rationalists are not consistent. Most of them hire a priest to bury their dead, and many of them are keen to build cathedrals and churches for the pleasure such work gives them. We may say, then, that in our society the number of persons who want cathedrals and churches is great; if they could get what they wanted, many cathedrals and churches would be built. It is our commission of Folly Number One that prevents their wants from being satisfied.

How many shires have cathedrals that accurately reflect either the desires of the inhabitants or the powers of our architects and craftsmen? How many cathedrals would have been built during the last fifteen years had not a shortage of money been alleged to exist? How many parishes have to tolerate the use of inadequate buildings because, it is said, they cannot "afford" new ones? During the last ten

[1] Cp. G. D. H. Cole, *The Intelligent Man's Guide through World Chaos*, p. 155: "It is certainly not the economist's business to lay down what people ought to want or to make his own ideas of what people need his standards of judgment." But Cole is too much of a reformer to act in accordance with his principles; his book is full of reforms which, he thinks, would be "good" for people or "better" for them, or even "best." He does not define the words.

years many new townships have been created, but there has been much difficulty in obtaining churches, though there appears to have been a sufficient number of persons who wanted these buildings and could pay for them if our method of commodity-exchange were different. Meanwhile, the men who might be building cathedrals and churches are compelled to be idle.

It is sometimes said that the age in which we live is a cathedral-building age. The truth is that in England three cathedrals have been built in the last thirty years; one of them is not yet finished, for lack, we are told, of money. Work on two other cathedrals has just begun; but in both cases building cannot proceed apace, for lack, again it is said, of money. This does not appear to be a record of which any energetic society could be proud.

I am aware that, owing to the pressure that can be put upon them by influential persons, our deposit-bankers are often ready to advance, say, a quarter of the money required (according to our ideas) for the building of a church or cathedral; but this means that those who want cathedrals and churches must go hat in hand to the deposit-bankers—an action which is only necessary because, according to our method of commodity-exchange, a parish council, chapter, or provost, desiring a church or cathedral, must prove themselves, before the building can be completed, to be in possession of the money that expresses the building's exchange-value. *That* is the reason why persons who want cathedrals and churches cannot be satisfied.

In Hopousia, where other ideas about commodity-exchange will prevail and where Folly Number One will not be committed, a cathedral or church will be built when it is wanted, provided that its consumers satisfy the Gild of Bankers that they can and will pay for it in the stipulated time, say one hundred years. The money expressing its exchange-value (and therefore the purchasing-power due to its producers) will be issued by the Bankers' Gild; each year the parish council, chapter, or provost will repay 1 per cent of the building's value. After a hundred years have passed the building will have been paid for; then unless aesthetic or historical considerations intervene, it will be pulled down and replaced.

(*c*) *Village Halls*

By virtue of his calling, a student of the cultural process must regard village halls as important buildings. Human beings are

gregarious creatures; if we observe an uncivilized society we find that each village has an open space, where the villagers meet to gossip and to discuss the things that matter to them. If the society has enough energy, a building is erected in this open space. It is no accident that all our villages once had village greens; such spaces served a deep human need. So do the buildings erected there.

Our villages were once starved for these buildings (which is one of the reasons for the existence of that cultural oddity, the parish hall); but in recent years the supply of village halls has received some attention from philanthropists, and many villages now possess halls paid for either by the local magnate or by such a body as the National Council of Social Service, administering charitable funds. The reason why the villagers have to rely on charity for the supply of the village hall is that we commit Folly Number One; this makes it almost impossible for them to secure the commodity in any other way.

In Hopousia no village will have to depend on charity for the supply of such a vital commodity; the inhabitants of each village will purchase their own hall. All they will have to do is to convince the Bankers' Gild that they are trusty men who can and will make the payments they promise to make. The hall will then be built by the Builders' Gild and paid for gradually in the agreed number of years. When the villagers have completed their payments, the old hall will be pulled down and another erected in its place, to be paid for in the same way.

(*d*) *Hotels, Inns, and Taverns*

The more mobile a population, the greater the influence exerted by the character of its hotels, inns, and taverns.

In the seventeenth and eighteenth centuries these buildings, like most others, were owned by the lord, who was the only person to whom the innkeeper was finally responsible. Now nearly all our inns and hotels are owned by men who paid, or whose ancestors paid, for the cost of the buildings and equipment. Huge hotel-owning companies have been formed to purchase and erect hotels; distilleries and breweries have bought inns outright; hotel-keepers and inn-keepers are now the servants of these masters.

This arrangement, which is the inevitable result of our method of commodity-exchange, greatly affects the way our hotels and inns

are run. Instead of performing a service for their fellow-men and receiving a supply of money in exchange, our hotel-keepers and inn-keepers are compelled to consider their masters first. Some of them still impress upon their hotels the mark of their own personality, but in the conduct of their business the over-riding factor is what suits the owners, who receive a share of the hotel's income in return for the mere fact of their ownership; and the hotel or inn has to be run in such a way as to increase this share to the greatest possible extent. This accounts for the indifferent nature of the buildings we use as hotels and inns and for the shabby furniture in them. The equipment of the hotel or inn is kept in use long after it has been worn out, for the amount of money paid annually to the owners prevents its replacement.

In Hopousia the men who keep hotels, inns, and taverns will be members of their own gilds and sub-gilds; each member of the gilds will be an independent citizen. He will need no "capital"; for if he is judged to be trusty and capable he will receive what he wants in the manner I have described. He will have no master as we understand the word; he will pay nothing to any owner; he will not have to sell this wine or that beer because his master orders him to do so. Each hotel and inn will be a separate unit, organized, equipped, and managed according to the wishes of the man who runs it, who will also be the man who owns it. He will play his due part in the life of the district in which he lives; his hotel or inn will exist for the convenience of its guests and the welfare of its proprietor.

It will be the same with the taverns, by which I understand a building in which men can obtain refreshment but no lodging.

(*e*) *Houses and Flats*

The supply of houses and flats in our society falls so short of the demand that successive governments have had to pass special legislation in an attempt to fulfil the need. I do not comment on the tenor of this legislation. My point is that, though millions of human dwellings are wanted, few are built, because, it is alleged, the money is not "there." It is only this aspect of the matter that I am referring to now.[1]

[1] According to W. J. Ashley, *An Introduction to English Economic History and Economic Theory*, vol. i, pt. ii, pp. 50–4, the decay of English towns in the later fifteenth and early sixteenth centuries was not due to a decay in aggregate income

On my desk there lies a large number of pamphlets issued by such organizatiohs as the Church Army Housing Society, Ltd., Garden Cities and Town Planning Association, St. Pancras House Improvement Society, Ltd., Willesden Housing Society, Ltd., Lambeth Housing, Ltd., St.Michael's Penzance House Improvement Society, and many others. These societies, half-charitable, half-commercial, ask for gifts or loans at a small rate of interest in order to build houses that are badly needed. The reason why the money is wanted is that, according to our method of commodity-exchange, a house cannot be built till its would-be consumer has collected out of an existing supply the money to give in exchange for it.

These societies are only a few of a large number which have recently come into existence. Reading the pamphlets, it is hard to believe that such conditions should prevail in the land of one of the most energetic societies that has ever existed. This alone shows how greatly the method in which men exchange their commodities affects the details of their private lives.

In Hopousia any man or group of men will be able to take delivery of any building of any size or kind, provided that the Bankers' Gild is satisfied that the building will be paid for in the future on the agreed terms. Money will not be required before a house or flat can be built; it will merely be necessary for the consumers of the buildings to produce over a period of years a certain quantity of commodities, the exchange-value of which, expressed in terms of money, will equal the exchange-value of the building. If the consumers do not produce commodities they will have to pay out of the money they receive in return for the cultural services they perform. When a trusty man or a trusty group of men takes delivery of a building the amount of money due to its producers will be divided by the number of years the building is estimated to last. If the would-be owners are judged to be capable of paying this amount each year the necessary money will be issued to them by the Bankers' Gild and gradually cancelled by their annual payments. A clause in the con-

but to lack of money wherewith to pay for new buildings. Folly Number One is not a modern invention; it has scattered its effects throughout time and space. In 1931–3 no less than 51,253 building operations were compulsorily idle in London alone. (*South London Press*, October 14, 1932.) Yet more houses were needed than even those 51,253 firms could have been producing. The reason for their idleness, and for that of the other men who might have been employed in the building trade, was our method of commodity-exchange.

tract will state that, when the purchase has been completed, unless aesthetic or historical considerations intervene, the building will be pulled down and a new one erected in its place. There will be no limit to the number of buildings that can be erected, provided these conditions are fulfilled. In a cheque-using society the supply of potential money is inexhaustible; any amount of it can be brought into existence at any time according to the state of the production-and-exchange process. The greater a transaction, the more purchasing-power is circulated, and the wealthier the society becomes.

The charitable societies I have mentioned may be putting a useful patch on a weak place in our economic system, but neither they nor anything like them will be needed in Hopousia. Nor will there be needed any such things as our Building Societies, which only exist among us because, according to our method of commodity-exchange, the money that expresses the exchange-value of a building, and therefore the purchasing-power of its producers, must be taken out of an existing supply. These societies borrow purchasing-power from private citizens and from deposit-bankers and lend it to any person who wants to build or to buy a house. This is so profitable a business that some authorities, for instance, the London County Council, have begun to undertake it. In Hopousia a house will not be a thing to invest money in. Indeed, to understand an economic system based on the fourth method of commodity-exchange, we must banish from our minds any idea of investment in houses or in anything else. In Hopousia each man or group of men will own the building he lives in; the economic system will be such that private houses or flats will never and can never be owned by anyone except the occupiers. If we were to exchange our commodities according to the fourth method, it would be the same among us. It does not matter whether a landlord is a private citizen, a municipal authority, an insurance company, an investment company, a charitable trust, or any other group of men; landlords only exist among us because we exchange our commodities in a certain way. If we were to re-create our economic system so as to exclude the commission of Folly Number One, we also should have no need of landlords.[1]

[1] By "landlord" I mean the man or group of men owning a building. I am not yet speaking about the land on which the building stands.

(f) *Housing Activities of Municipal Authorities*

During the last twenty years owing to the great demand for houses in our society, Parliament has had to give municipal authorities power to borrow money from private citizens in order to build them. I comment here neither on the subsidizing out of public funds of the rents charged to the tenants of these houses nor on the kind of houses that the municipal authorities have built. All I wish to say now is that these municipal authorities only need money because we exchange our commodities in a certain way. Some strange results have ensued.

When money is borrowed interest has to be paid. Some local authorities have borrowed so much to build houses that they cannot borrow any more. The result is that houses, though urgently required, cannot be built. And the men who might be building them are compulsorily idle and therefore have no purchasing-power except the allowance they receive when they are out of work. This means that the commodities they would be purchasing if they were displaying their energy are not being produced, which means that other producers too are idle, and their purchasing-power also is reduced, and so on.

(g) *The quality of buildings*

Our method of commodity-exchange affects the quality of building. There is always a competition among builders to secure orders to build, and, since the money to pay for the building has to be borrowed, and interest paid on it, there is a tendency for the price to be considered before the quality. Tenders are invited, and the most important item in the tender, or at any rate the item most discussed, is the price. Now it is humanly impossible to frame a contract to cover every detail of the building process. If goodwill does not exist between producer and consumer no amount of inspection and spying will prevent deception. Spies cannot watch every workman, inspect every piece of timber, check each weight, and vouch for the quality of every mixture of mortar. If a contractor, to get a contract, has to cut his price, there will always be a tendency for work to be skimped, for weight to be short, and for quality to fall. There is only one way in which the finest work can be done: producers themselves must refuse to be satisfied with anything but the best. Pride in good work well done is the only factor that will unfailingly

produce high quality of workmanship. If price rules, this factor does not operate, and price rules among us because no building can be erected till the purchasers have procured the money to pay for it.

In Hopousia the overriding factor will be the display of human energy. The Builders' Gild will erect as many buildings as necessary. Payment will be made by the Bankers' Gild, who will issue the money to the consumers provided the latter are judged to be trusty men capable of paying in future in accordance with their undertakings. These future payments will be spread over the estimated life of the building. When a building has been paid for it will be pulled down and a new one erected in its place.

When municipal authorities build the cheapest possible buildings in order that they may not have to borrow more than the minimum amount of money, they affect the commodity exchange process in another way. The result of their action is that, for example, when they build a new bridge they do not build the best but the cheapest bridge. This means that less purchasing power is given to the men who produce the bridge, which again means that the producers of all commodities purchased by these men suffer. By erecting the cheapest bridge the municipal politicians reduce the total amount of commodity exchange to a minimum.

(*h*) *Houses as an Investment*

If money is thought to be necessary before a house can be built those who have money begin to build houses as an investment. In the nineteenth century a man commonly put his savings into what he called "a nice row of houses"; to-day many insurance companies and similar organizations do the same, though instead of "a nice row of houses" they erect a large block of "modern" flats. Regarding the buildings as a source of profit, these owners do not have much consideration for their tenants beyond the minimum necessary to secure regular lettings. In the areas where persons of low income-level live we are even compelled to appoint sanitary and other inspectors to whom a tenant can appeal when his house or flat gets so dilapidated as to be uninhabitable. Part of this is due to the fact that we do not pull down our old buildings when they are worn out; our economic system is such as to encourage their preservation. But much dilapidation exists because the money that might be spent on repairs is going into the pockets of the man who owns the building.

Meanwhile those who might be keeping the buildings in a good state of repair are compulsorily idle. Our "luxury" trades flourish while painters and decorators and their labourers are unable to find work.

There was a time when landlords would rather go without their rent than let their property get into a bad state of repair. This is still the case among those who preserve the tradition created by the eighteenth century squirearchy. But in our large cities that tradition never existed; in other places it has disappeared; where it has not disappeared it is disappearing. Nowadays the rule is for the owner of a house to do the least he can for his tenants and to obtain as high a rent as he can. All this is due to our method of commodity-exchange.

Fisheries

Men that reap the harvest of the sea have always appealed to the imagination of the landlubber. Among less energetic societies fishermen build their own boats; this used to be, and in some places still is, the case among us; but nowadays our fishermen have to fish in deeper waters and for this purpose need bigger boats. Our commission of Folly Number One, however, prevents them from themselves purchasing the boats; the result is that they are no longer independent men; most of them are the servants of the persons who pay for the boats. This situation is directly produced by our method of commodity-exchange.

In Hopousia, where a different method will be used, all fishermen will be, if they wish, their own masters. Every member of the Fishermen's Gild will receive any boat he wants when he wants it, provided that he satisfies the Bankers' Gild that he is a trusty man who can and will pay in future what is due for the boat. The boat will be made by the Boatbuilders' Gild; as soon as it has been delivered, the money expressing its exchange-value will be issued to the fisherman by the Bankers' Gild. He will repay it, say, in twenty-five years. If so, the Bankers' Gild will debit his current account each year with one twenty-fifth of the boat's exchange-value. This money will be credited to his money-issue account; also to the Money Issue Account. After twenty-five years the accounts will balance. Another boat will then be delivered and the old one broken up.

The money with which the fisherman repays the Bankers' Gild will be obtained from the purchasing-power he receives in exchange for his catch, the value of which will be his own. He will not have to share it with persons whose sole claim to a part of it rests on their ownership of the boat. Nor will any fisherman be compelled to use a boat that is worn out. These results are directly produced by the fourth method of commodity-exchange.

The way in which fish will be marketed will be decided when we discuss the question of commodity-distribution.

Electricity

The foundation of our inductive knowledge about electricity was laid by Gilbert at the end of the sixteenth century; Volta's work was done about two hundred years later. About a generation after Volta, Faraday discovered how to induce a current by revolving a conductor in a magnetic field; thenceforward, especially after the invention of the self-exciting dynamo, the discoveries were applied to human purposes. Yet even to-day (1936) there are many districts in Great Britain without a supply of electricity, though the inhabitants would like to have it if they could. The reason they have no supply is that we commit Folly Number One.

According to our methods, to purchase the commodities they use in the production of electricity, our electricians have to obtain the necessary purchasing-power out of an existing supply. This means they must hire it; and since those who possess purchasing-power will not hire it out unless they feel sure that the fees for the hiring will be forthcoming, electricity was from the first only made available in places where many consumers obviously wanted it. For if there was some doubt about the number of consumers there was also some doubt about the producers of electricity being able to pay the fees charged for the hire of the purchasing-power.

During subsequent years some of the purchasing-power received in exchange for the electricity was kept in reserve for future contingencies and development; but a large part of it was distributed among the persons who had lent the original money. The claim of these persons to any share in the purchasing-power received in exchange for electricity was based on the fact that they had paid for the means of producing it; and these persons, being regarded as

indispensable to the enterprise, soon began to dominate the industry. The result was that all our electricians became the paid servants of persons who had money. Indeed, it is the same story over again. The interesting part is that our electricians have become so accustomed to being in this position that few of them can conceive of being in any other position.

A second result of our methods was that electricity, when first produced did not become available in distant places. Since its producers had to hire the purchasing-power necessary to obtain the commodities required to produce electricity, they borrowed the least they could; and the shorter the distance the current had to be carried, the less purchasing-power had to be hired. Moreover, those who offered purchasing-power for hire were less keen to lend it if there seemed to be any doubt about their fees being earned. The result was that electricity was made available only in closely populated districts. Eventually Parliament had to intervene by forming an *ad hoc* Commission with authority to hire purchasing-power, the cost of hiring being guaranteed by the government. Electricity was then distributed to every area, but the Electricity Commissioners, who had to pay the cost of the hiring, hired the least amount of purchasing-power they could. This meant that when alternatives presented themselves they had to adopt the cheaper one. For instance, instead of burying the main cables, which is the safest, most efficient, and most authentically satisfactory way, the Commissioners placed them on large steel pylons because it was cheaper so.

To control the supply of current from the main to the subsidiary cables, and thence to the actual consumers, various local companies were formed. These also had to hire the purchasing-power with which to obtain their buildings and equipment; they also wished to hire as little as possible; they too adopted the cheapest way. Thus instead of burying their wires they placed them on poles, from which wires were slung to the buildings that required the current. But even then comparatively few persons were able to purchase a supply of current; for, to obtain a supply every consumer had to pay cash for the wires that carried the current from the meter to the place where heat and light were needed. In newly-erected buildings the cost of these wires was included in the cost of the building, but in an old building no supply of current could be installed unless the producers received at once the amount of purchasing-power due in

exchange for the installation of the wires that carried the current. The result was that only well-to-do persons could have electricity; other persons, unless they occupied a newly-built house, had to go without it. And that is the position to-day. Even on their present income most persons could pay for the current they would use; what they cannot pay for is the cost of the commodities necessary to carry the current to the place where they want it.

Thus the result of our method of commodity-exchange has been to hand the control of the electrical industry to persons whose sole qualification is that they have or had money. All electricians are now their servants. It is difficult for any person, except in a large city, to obtain electricity; the number of persons who use it is almost the minimum. The ironical part of the matter is that the more electricity is consumed, the cheaper the cost per unit produced. Thus a further result of our method is to preserve the cost of electricity at a maximum.

Our methods also increase the cost in another way. The purchasing-power hired by the Electricity Commissioners is hired at a definite rate; but the fees payable for the hire of the purchasing-power used by the subsidiary companies are not so strictly governed. Usually a higher rate has to be paid; and the hirers expect to receive a profit also. The result is that the companies have to place on a unit of electricity such an exchange-value as will give these persons a profit in addition to interest. This interest and profit is paid by the consumer. I hold no brief for cheapness, which is only a relative thing; my point is that in our society the purchasing-power that has to be given in exchange for a unit of electricity is great, and that it is only because we commit Folly Number One that the Electricity Commissioners and supply companies have to hire purchasing-power at all.

In Hopousia there will be no need for any such organizations as these. The Gild of Electricians will be responsible for the supply of all electricity; they will obtain their buildings and equipment in the same way as the journalists obtain a printing machine, a parish a church, or a fisherman a boat. They will also bury all their cables; for that is the safest and most suitable way and there will be no necessity to consider cheaper alternatives.

So much for domestically consumed electricity. But electricity is also used for industrial purposes; that is, as a means whereby other

commodities are produced. To appreciate the effect produced by Folly Number One on the use of electricity in industry, consider the production of steel.

No person, visiting a steel works, can fail to be impressed by the advantages of the electrical furnace; but our steel manufacturers do not install many electrical furnaces, because, they say, they cannot "afford" the high cost of the installation. In Hopousia a Steelworkers' Gild will be able to receive any number of electrical furnaces when they want them. Payments for these commodities will be spread over a period equal to their estimated life, and the furnaces will be installed as soon as the Bankers' Gild are satisfied in regard to the trustworthiness of the purchasers and their ability to make the promised payments. The contract under which new furnaces are supplied will contain a clause to the effect that, as soon as a furnace has been paid for it will be discarded and a new one delivered, to be paid for on the same terms.

If you look at our land from the cabin of an aeroplane you will see that it is peppered with pylons and black poles. These are there because we commit Folly Number One. Our land is also studded with industrial chimneys. The age of steam has passed; yet these archaic instruments survive, and Folly Number One prevents their disappearance. The chimneys are required to take the smoke from large fires, which in their turn are required for the heat they give. But this heat could easily be obtained electrically yet electrical current is not used because, we say, the money to pay for the installation is not "there." This applies to every industry needing heat to produce its commodities.

We should be wrong, however, if we ascribed to our method of commodity-exchange the full responsibility for the preservation of industrial chimneys. These are sometimes preserved, not because their owners do not wish to replace them, but because they are assets which, appearing in a balance-sheet, make the sheet balance. If the chimneys were pulled down, value would disappear; the total of the assets would not then equal the total of the liabilities.

For this situation our method of commodity-exchange is not wholly responsible. True, the situation could not arise if we used the fourth method of commodity-exchange; under that method commodities used to produce other commodities are automatically discarded and replaced. But even when the third method of exchange

is used there is no *need* for worn out commodities to be preserved. If industrial chimneys still appear on the asset side of a balance-sheet it is either because too much money has been distributed in dividends or because the owners think they will make more profit by continuing to use the chimneys than by replacing their coal furnaces by electrical ones. We must always remember that the third method of commodity-exchange creates groups of shareholders who finally control the production of commodities. These shareholders are usually anxious to extract from an enterprise as much purchasing-power as they can. The human reason can find no argument against profit as a motive; but there is a difference between the profit of a producer and the profit of a shareholder.

Transport

These illustrations would not serve their purpose if I did not draw attention to the influence of our method of commodity-exchange upon the economic groups that do not produce commodities but perform economic services. Chief among these are the groups that transport persons and commodities from one place to another. I discuss merchant ships and railways. For the illustrations to be adequate I should have to discuss air-transport too; but I am not persuaded that the lassitude of our society in this matter is altogether due to our method of commodity-exchange. True, the enterprise may not exist because Folly Number One smothers it at birth; but I am not convinced that this is so.

(*a*) *Merchant Ships*

Owing to our commission of Folly Number One, the masters and crews of our merchant ships are unable to purchase their own ships; so they also are the paid servants of moneyed masters. When a merchantman is at sea the overriding factor in the way she runs is the financial interest of the persons that own her. Old ships are not always discarded when they are worn out. The owners often keep them in service, for the profit of their shareholders, to the danger of human life, and to the hurt of a seaman's pride. Shipyards that might be building ships to replace the old ones are closed.

A continual increase in the size and speed of our merchant ships, due to our great energy and to the pressure put upon us by the size

and speed of ships built by other societies, has made it necessary to collect larger and larger amounts of purchasing-power to give in exchange for them. The result is that a great part of our sea-transport is controlled by vast companies, interlocked by cross-ownership of shares. But even these terrific amalgamations find themselves unable to collect out of an existing supply enough money to pay for the ships they want. To such a pass has our method of commodity-exchange brought us that Parliament must be asked to help. When the *Queen Mary* was built her would-be owners were themselves unable to pay for her. Yet the material is there; the men are there; the energy is there. And what more, in the nature of things, is required? The greatest seafaring society known to history is being stultified by the way in which its members exchange their commodities.

In Hopousia each merchantman will be owned by seamen, subject to no control except that of performing their economic function. The crews of merchantmen will be grouped in a Merchant Seamen's Gild, and there is no reason why there should not be a sub-gild for each ship. When a gild wants a new ship, whatever her size and speed, whatever her character and cost, she will be built by the Shipbuilders' Gild; the money that expresses her exchange-value will be issued to her purchasers by the Bankers' Gild, provided that the Bankers' Gild is satisfied that the money will be repaid in future. Each ship will be, say, a ten-year ship, a fifteen-year ship, or a twenty-year ship; each year the gild that buys her will be required to pay, out of the money it receives in return for services rendered, a sum equal to the exchange-value of the ship divided by the estimated length of her life. When she has been paid for she will be broken up and a new one delivered in her place.

Under such conditions the situation that now exists in our shipbuilding industry could not possibly arise.

(*b*) *Railways*

According to our method of commodity-exchange, the men who run our railways cannot obtain a supply of commodities (rails, wagons, stations, sheds, etc.) unless they borrow the money to pay for them. So they, as well as our journalists, electricians, fishermen, seamen, etc., are the paid servants of the persons who supplied the money for the necessary commodities, in this case those that con-

stitute a railway system.[1] The Hopousian plan will be different. The railways will be controlled by a Railwaymen's Gild, which will include every person who works on the railways. The Gild, or any sub-gild, will immediately receive a supply of any commodity they wish provided that its members are judged to be capable of paying in the future an annual sum equal to the exchange-value of the commodity divided by the numbers of years the commodity is estimated to last. It will not be necessary for worn-out commodities to be used; each contract will contain a clause to the effect that as soon as, say, a shed, wagon, or station has been paid for, another will be purchased to take its place.

I emphasize this about railway stations, which are only commodities. Most of the stations we ourselves use were built nearly a hundred years ago. They are ill-lit and of archaic design; but owing to our method of commodity-exchange their replacement is unlikely. Meanwhile thousands of men, bricklayers, plasterers, carpenters, labourers, architects, etc., are idle, or compelled to work short time because we are not replacing the worn-out commodities that constitute our railway system.

The effect of our methods of commodity-exchange on our passenger railway trains is equally impressive. Since no new commodities can be delivered except in exchange for purchasing-power taken from an existing supply, and since the persons that control the railways will not pay the money unless it seems worth while, new rolling stock is only made available when the old stuff has become a scandal. No line is electrified till large profits loom.

In 1933 the men who control our Southern Railway reported that they had completed the electrification of two hundred and ninety-three miles of their line. The cost, they said, was about eleven and three-quarter millions; but, since they would have had to spend about five and a half millions whether they electrified the line or not, the so-called "capital" cost of the electrification was about six and a quarter millions. When the work had been completed more people began to use the railway, and, after deducting the cost of the increase in the traffic, the men controlling the railway found themselves with over a million pounds profit. "'That gave them a return of $17\frac{1}{2}$ per cent on their capital expenditure' (Cheers)."[2]

[1] Again I emphasize that I am not yet speaking about land.

[2] *The Times*, May 20, 1933.

It would be rash to conclude that the electrification of any other little piece of line would yield such gay results; but it is plain that the community would benefit greatly if all the passenger lines were electrified. It is our method of commodity-exchange that prevents the work being done.

The profit thus earned by the Southern Railway, according to the men who run it, was nearly a sixth of the outlay; this means that they could have repaid the money within six years; but twenty years seems soon enough, and this appears to be a reasonable figure for the Hopousians to adopt. There will be no need for the Railwaymen's Gild to raise what we call "capital"; the commodities they want will be delivered when required on the conditions I have described. And since there will be no need to raise "capital" there will be no interest to pay, therefore railway transport will be provided at lower cost than amongst us. More people will be able to afford the cost of travel. Visits to the seaside will not be unusual events, and an increase in the frequency and number of these visits will lead to the rebuilding of the seaside resorts.

Our experiment consists in changing our present (1936) institutions into an Hopousian shape. At present we are doing no more than trying to discover what the Hopousian institutions will be like; but I have already said enough to make it plain that, when the change takes place, men will begin to multiply the number of their research laboratories, to rebuild every town and city, to electrify every railway line, to replace old ships with new ones, to build any cathedrals and churches they may want, to bury all their electric wires and cables, and to do any other thing, such as laying on a water-supply to every house and cottage, which at present they are prevented from doing by their method of commodity-exchange. Each economic group will be restored to the ownership of the commodities they use in the performance of their economic function; each group will become again what it was before Folly Number One warped the economic structure: a separate unit, self-supporting, self-governed. Its relation to the other economic groups will be decided later.

For Notes on Hopousian Economic Structure see Appendix.

SOCIAL STRUCTURE

Under the heading of *social structure* I include the relation between the individual, the groups to which he belongs, and the society; the relations between the sexes; the constitution of the family; the organization of the professions that do not help to produce or to distribute commodities but perform services (priests, medical doctors, diplomats, teachers, and lawyers). These are the *social professions.*

We have seen that human society is not a mere collection of individual males and females but a collection of human groups. The males and females are united socially in families; economically and politically in trades, gilds, and clans. To these a man feels bound by common interests and aims; to each he owes a loyalty that conflicts with his other loyalties; and the task of his life is to adjust these conflicting loyalties so that he may remain in a right relation with each group and obtain from it the satisfaction that his nature demands.

It seems to be the fate of the electron, with its deep potential powers, to wander ineffectually till it finds its electrical complement. It carries an unsatisfied charge, a kind of yearning that it always seeks to satisfy. In order to satisfy that yearning it must perforce join itself to a nucleus that has an opposite charge unsatisfied. It is part of the electron's inherent nature to behave like that, and, as soon as it does as its nature demands, its wanderings cease; an event in the universal process then emerges. In a similar manner a human organism, with its deep potential power, wanders ineffectually till it can attach itself to a group appropriate to its need. While it wanders it feels forlorn, and in a wrong relation with the world, which it begins to hate; but as soon as it obeys its nature, and is joined to its group, it feels as if it has arrived where it belongs. An event in the cultural process then emerges.

If I were asked to define happiness I should reply that it is the feeling that emerges when our behaviour accords with our inherent nature. Thus I should always expect men to be unhappy if their manner of life conflicted with their inherent nature; and, if the social structure of their society prevented their fusion into appropriate groups, or compelled them to coalesce in inappropriate

and speed of ships built by other societies, has made it necessary to collect larger and larger amounts of purchasing-power to give in exchange for them. The result is that a great part of our sea-transport is controlled by vast companies, interlocked by cross-ownership of shares. But even these terrific amalgamations find themselves unable to collect out of an existing supply enough money to pay for the ships they want. To such a pass has our method of commodity-exchange brought us that Parliament must be asked to help. When the *Queen Mary* was built her would-be owners were themselves unable to pay for her. Yet the material is there; the men are there; the energy is there. And what more, in the nature of things, is required? The greatest seafaring society known to history is being stultified by the way in which its members exchange their commodities.

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Under such conditions the situation that now exists in our shipbuilding industry could not possibly arise.

(*b*) *Railways*

According to our method of commodity-exchange, the men who run our railways cannot obtain a supply of commodities (rails, wagons, stations, sheds, etc.) unless they borrow the money to pay for them. So they, as well as our journalists, electricians, fishermen, seamen, etc., are the paid servants of the persons who supplied the money for the necessary commodities, in this case those that con-

harmless, is sometimes hounded out of the district. Many uncivilized peoples conduct elaborate ceremonies when strangers arrive in order that the danger inherent in strangers may be avoided. Yet this fear of strangers is soon dispelled if the people feel that the stranger is their cultural superior. In that case they will welcome him, try to imitate him, and change their behaviour that they may behave as he behaves; they carefully avoid what displeases him or gives him pain; and eagerly do what pleases him, though the very act may frighten them in their hearts. When he is present they like to appear important, and will even speak disparagingly of their own traditions, though when he is not present they will preserve their old habits. Here again the observation of uncivilized men affords more convincing evidence than that of civilized men; for as men rise in the cultural scale their inherent nature becomes modified by experience and is often controlled by conscious effort. But even in civilized life the phenomenon can be observed, for a civilized society is always culturally stratified; we can see, if we travel through our own country, the manner in which the members of lower cultural strata tend to imitate the manners, speech, dress, and behaviour of those whom they regard as their superiors. If, on the other hand, men are compelled, by the nature of the economic structure, to bow their heads before a man whose culture is not superior to their own, they rebel, and their hearts are sickened by the thought that they must act in a manner that thus contradicts their inherent tendencies.

It would not be out of harmony with the evidence to interpret this behaviour as a sign that all of us have an urge to rise in the cultural scale. If that is so it is this urge that enables us to recognize those whose cultural state is higher than our own, and causes us to rebel if we are expected to pay homage to those whose cultural state is not higher.

If this interpretation is correct, and my definition of happiness holds good, I should expect men to be most happy when they lived side by side with those whom they recognized as their cultural superiors. If they were compelled to live in an area exclusively populated by their own kind I should expect them to be less happy, and to behave as if they lacked something which they could not describe but which was essential to a full life. And I should hazard the conjecture that they would be least happy if the economic structure

compelled them to bow their heads to those whom they did not regard as their cultural superiors. Throughout our land, therefore, I should expect to find, so far as the social structure was concerned, a state of greater or lesser unhappiness, and to observe in our cities a rebellion that would be manifest in some form of escape-behaviour. In some of our villages a similar restlessness might be predicted, due to the presence of those who had to be accepted, though they could not be recognized, as cultural superiors.

The student must judge for himself whether or not these suggestions are acceptable. In Hopousia the social structure will be designed vertically, so that men of varying cultural levels will live side by side. Each locality will contain its own small groups, which the inhabitants will create, join, or leave according to their taste. Thus several groups will have a cultural, political, or economic character, and vary according to the occupations and standards of the people; and these will be organized horizontally; so that the complete structure of the society will be a lattice, in which the horizontal political and economic structure will be interlaced with the vertical social structure. As I conceive the matter, a vertical social structure alone satisfies our inherent nature; thus any other kind of structure would handicap the display of energy. There is much evidence to support this conclusion. If we consult human records we find that when great human energy has been displayed the social structure of the society has been as I have described. Republican Rome, fourteenth-century England, and the eighteenth-century English squirearchy are appropriate examples.

Education

At present our educational system is built on snobbery. The secondary schools have adopted a curriculum based on that of the public schools. The idea behind the reforms is that what the rich man's son has had in the past the poor man's son shall have in the future. We have never asked ourselves if what the rich man's son experienced was desirable, and, if so, why. We have never asked ourselves what kind of citizen we want to produce, and why. Moreover we have adopted an unworthy standard in the few judgments that we have made. The aim of the nineteenth century "gentleman" was to be a parasite, to be idle while other men worked, to receive

money for no other reason than for being alive. This "ideal" has spread downwards; wage-earners have taken over bourgeois habits of thought; and our educational system is designed to produce men who despise labour and do their utmost to become parasites. And if a man must work we would rather let him put on a black coat and become an administrator, a distributor, an agent on commission, or anything in preference to a craftsman or producer. Such a system is not that of the Hopousians. Their education has two purposes: to mould the child to the social system and to raise it, if it wishes, in the cultural scale. Discipline and development are its two methods; and its universities are places not of mere education but of learning and research.

Of education as we have it, Eric Linklater aptly says in *Juan in America*, p. 230: "Education dulls your eyes, rots your digestion, spoils your temper, ruins your muscles, blotches your complexion, thins your hair, saps your courage, spikes your endurance, and devours your immortal soul."

Giles Romilly in *Out of Bounds*, p. 107, diagnoses the trouble when he says, "I am convinced that personalities matter more than theory in education. My brother says that part of the trouble about 'progressive' schools is that there is no idea what sort of people the school wants to turn out . . . Public schools are dreary and apathetic because they aim at a standardization that is played out, within a framework which is collapsing."

Sexual Regulations

Here, now, our sexual regulations are a mixture of compromise and fear. Our attitude towards sexual matters is unhealthy, hypocritical, and sentimental. The unhealthiness of our minds has been created by the stress laid upon the opinions of Paul of Tarsus. His announcement that sexual intercourse was a concession to the flesh has sunk deep into our consciousness. Organic desires, legitimate and not unlovely, are repressed; outraged nature asserts itself. The opinions of this virile but unintelligent Jew are accepted whilst those of the Galilean are disregarded. We are hypocritical in that we claim to obey the Galilean while our actions belie his teaching. Against this attitude there is some rebellion but it is an unintelligent one having no rational basis and merely

encouraging illicit relationships of a tiresome and unprofitable kind.

In Hopousia sex will not be associated with sin. But, in order that the Hopousians may display the greatest possible energy, there will be more compulsory continence there than in any white man's society. I have shown in their Political Structure how they will have two forms of marriage, alpha and beta. Alpha marriage is an institution to ensure continence and therefore social energy. It demands pre-nuptial chastity and, as long as each partner is capable of attending to the other partner's needs, allows no divorce. Beta marriage can be terminated by mutual consent, and demands no pre-nuptial chastity. No shame attaches to beta marriage; the individual is free to choose whichever form of marriage suits his temperament and outlook. At the same time adultery cannot be condoned, not for any moral reason but because it strikes at the root of social energy.

Early marriages are the rule. Before marriage a woman and a man must both produce certificates of health and freedom from venereal disease. In the case of alpha marriage, a woman must have a certificate of virginity signed by a doctor and woman nurse.

Education includes physiological knowledge and is the same for alphas and betas. There is a continual interchange, the grandchildren of alphas becoming betas. A child of an alpha marriage often contracts a beta marriage.

It is held that if a party to a marriage commits adultery the full responsibility is not that of the adulterer. Often a wife has sexual relations with a man other than her husband not because she is promiscuous or frail but because her husband has become intolerable. Or vice versa. And again the intolerability of the one may be due to the indifference or carelessness of the other.

The condemnation of pre-nuptial children is completely pagan and barbarian and due to St. Paul's sense of sin. Nowadays women who practise abortion for social convenience still condemn any unmarried girl who produces a child, so strong are barbarian customs and social taboos.

In Hopousia the mother of a bastard is not shunned, though she is advised to seek a husband without delay. Her bastard is a beta and can have only one vote; but this is in keeping with the Hopousian social structure and involves no moral condemnation.

In Hopousia the young are not brought up to consider marriage as an end in life but as a means to its beginning.

For Notes on Hopousian Social Structure see Appendix.

NOTES ON THE CREATION OF HOPOUSIA

In such an experiment, time, of course, is an important factor. If the operation were to be performed too quickly unnecessary suffering would be inflicted; if too slowly the operation itself would lose a large part of its significance. The less the normal life were interfered with, the better.

Our present economic system may be compared to a house the foundations of which are beginning to crumble. In this house the inmates are cramped and uncomfortable. Some are more cramped than others and are continually trying to invade the space occupied by those who seem to be less cramped. These are so busy defending what they have that there is no time for them to consider how the whole house might be rebuilt. It certainly seems that the house is likely to fall on top of them before long; but the occupants cannot pull it down altogether until new walls at least have been erected to take the place of the old ones.

First, patchwork of the old house must cease. Then all hands must work on digging entirely new foundations. On these foundations new walls must be built as soon as possible. When these are erected the old ones can be pushed over or left to fall of their own accord.

I estimate that it would take about nine months to dig the new foundations once they were already designed. The speed at which the walls were built would largely depend on the energy and goodwill of the inhabitants who would have to do all the work. In five years, or perhaps seven at the most, the old cramped life would be a thing of the past; and in each succeeding decade conditions would improve. In forty years the new edifice would be complete.

I say forty years because I do not see how the burden of loan capital can be removed in a shorter time unless the whole fabric collapsed, and that would lead to even greater wretchedness than that which now exists. I can see what the new foundations will be

like. I think I know how to remove within ten years all the other handicaps at present placed on a display of energy. But I fail to perceive how a great pile of loan capital can be liquidated in a shorter time than a generation and a half.

As I read the panaceas that pour forth from our publishing offices, and as I study the aims of various political parties, I find no suggestion made as to the liquidation of loan capital. All reformers appear to agree that it is a weary and unnecessary burden; but when asked about it they merely shrug their shoulders as if they did not care to discuss so embarrassing a question. Its abolition appears to be accepted as impossible.

Children born in the new edifice will have no experience of the old cramped life, and, as they mature, they will grow into beings of a different character to their parents whose lives were suffocated by the conditions under which they lived.

Our programme is: preparation, nine months; change, seven years; disappearance of every trace of capitalism in forty years.

It is at this point that any student of the cultural process, or any thinker who wishes to hasten the cultivation of the process, comes into conflict with organized Christianity. In the opinion of Christian men, the opinions of Christians are absolute. They believe that their standards of conduct, value, and judgment were revealed to them by God under special and peculiar circumstances and that God was incarnate in Jesus the Galilean. Admittedly most Christian sects respect the doctrine of the Incarnation; some perhaps would agree that their opinions have a relative value. But the Incarnation is the central doctrine of all Catholic Christians, and any man who accepts it must reject the suggestion that all standards of judgment and value are relative. I do not expect, therefore, that many Catholic Christians will agree with me and be persuaded by my words; all I can do is to state my attitude towards their fundamental doctrine.

The Doctrine of the Incarnation seems to occupy the same position in human thoughts as the Law of the Inverse Square. The Law of the Inverse Square is not false: it is merely inadequate; and I regard the Doctrine of the Incarnation in the same way. For the sensible events which take place on the earth the Law of the Inverse Square holds good, but it does not hold for all the events in the solar system. So far as we know it is definitely untrue of the events outside the galactic system. If a man is not aware of any event except those

which he can see with his eyes and which take place on the earth, he may regard the law as absolute, as our forefathers did; but in that case he can lay no claim to speak of the universe or of anything that takes place outside the earth.

In a similar manner the doctrine of the Incarnation provides Christians with what they regard as absolute standards, but to those who are not Christians those standards are as relative as any other standards. Just as the Law of the Inverse Square holds good only for the people on earth, so the standards of Christians hold good for Christians only; but just as a false idea of the universal process is gained when the point of view of a man on earth is given a greater validity than the standards of a being on a quickly moving star, so a false idea of human affairs is gained by a man who gives Christian standards a greater validity than those of any other sect or sects.

We are required to make a mental effort of no mean proportion before we realize that an object which seems square to us may appear rectangular to another observer, and a similar effort is needed before a Catholic Christian can realize that what seems evil to him may seem good to another man. From the point of view of the cultural process neither opinion has a greater value than the other; they are simply different opinions having no special validity in the scheme of human affairs.

All we can say is that some opinions and actions point in the direction of the Cultural Process, others away from it. It would be almost true to say that the opinion of the Galilean, as reported in the Synoptic Gospels, were all in the direction of the Cultural Process, whilst those of Paul were almost always away from it.

The Galilean had proceeded further in the direction of the Process than any other man whose words and actions are known to us. But many other men, non-Christians, have proceeded almost as far; and this explains why so-called Christian conduct becomes more and more "natural" as an individual climbs the cultural scale.

"Christians" who are non-Christian in their conduct have endeavoured to practise only the teaching of Paul, and have not proceeded far enough up the cultural scale to understand and desire to practise the teachings of the Galilean.

BOOK IV

We have seen that in such things as Justice, Liberty, Goodness, Truth, and Beauty, etc., there is no Absolute. About these qualities opinions vary. It is, however, possible, by studying the aims and motives of various groups of idealists, to form some rough idea of what is generally meant by "economic justice."

The purpose of our experiment has not been the attainment of any abstract ideal. We have aimed at the creation of energy. But we find now that the conditions necessary for the display of the greatest possible energy may well be, in the eyes of idealists, their own recommendation; for they are those at which reformers have always professed to aim.

CHAPTER XI

Aims and Outlooks

THE SOCIALIST LEAGUE
CHRISTIANS
CONTEMPORARY NEGLECT OF CANONIST LITERATURE
FACTORS IN PRODUCTION
USURY
DISTRIBUTISTS

WE know that a certain amount of compulsory continence produces a certain amount of human energy. In order, therefore, to secure the creation and display of the greatest possible amount of energy for ever, it is necessary to enforce certain definite compulsory sexual regulations.

We have seen in the preceding chapter what these regulations are. We have also watched the re-creation of our society. In re-creating the political, economic, and social structures our sole criterion has been this energy. Only those changes—but all those changes—have been made which would fulfil the purpose of the experiment: the creation and display of the greatest possible amount of energy for ever.

Concerning these aims there will be two points of view to be considered here: that of the scientist who, since he may make no moral judgments as to what is "good," "better," or "best," has no motive for the experiment beyond curiosity; and that of the rationalist (with whose point of view I include that of the reformer and idealist). The conditions necessary for the display of the greatest amount of energy for ever happen to be those at which the reformers and idealists have always professed to aim. But in making the experiment we have not aimed at these as an end in themselves; they have merely emerged from the necessary conditions. In three generations a society whose structure is re-created under those conditions will be in a state of which reformers and idealists have dreamed.

Although many men think that social energy is desirable for its

own sake, there is no objective evidence compelling the induction that this is so, or that it is worth the price that must be paid for it. Therefore I do not submit that the Hopousian structure is "good" or "better" or "best." But having refused to admit that any given society cannot achieve a state of economic "justice" unless all other white societies do so too at the same time, and since we have no one guiding opinion of what economic justice is, I have said that out of the Hopousian experiment will emerge a state which *any* group of idealists, according to the published aspirations, must regard as economically just.

I will therefore examine the aims and outlooks of a few groups of idealists.

(*a*) THE SOCIALIST LEAGUE

The members of the Socialist League desire "to create an environment within which all citizens may achieve self-expression and happiness as co-operating members of a society animated by a common purpose."[1] Here the basic idea seems more practicable than usual, for the object is not to achieve self-expression and happiness, but to create an environment within which these things may be achieved. But since the members of the League have made no scientific study of the conditions under which universal happiness emerges, the methods which they propose to adopt are simply those of the reformers. The result is that their environment, if created, would not yield the results they profess to desire.

The Socialist Commonwealth is to be a "classless society."[1] In order that the citizens may collectively control their economic life, all the resources of nature, the instruments of production, and the machinery of exchange are to be brought under common ownership. They seek, they say, to organize the workers, and to wrest power from the privileged classes. The latter, they claim, extort rent, profit, and interest from the workers; in the newly-created environment this rent, profit, and interest shall be used for the "general good," enjoyed by those who have hitherto been deprived, and administered by an institution called the State. The State will receive and distribute profit, make rules by which the citizens shall live, appoint paid administrators to see the law is

[1] Quotations from The Socialist League, 23 Abingdon Street, S.W.1.

carried out, and inspectors to watch the administrators and other officials to oversee the inspectors. Yet the essence of self-expression or, as I prefer to say, self-development, is freedom from any interference; if the State is allowed to interfere with everything on behalf of everybody, self-development will be as impossible as in the days of Bruno. So far from allowing the free exchange of opinions and giving a free rein to fancy, the State must forbid any form of thought and behaviour which conflicts with the "general good," and for the sake of this "general good" each citizen would have to suffer a greater interference with his private life than is now suffered by the working classes at the hands of the middle classes, who, in the name of charity, cause a poor man to endure many unpleasant things for his own "good." Moreover, in such a State as the members of the Socialist League desire, there would be introduced, to an even greater extent than now, a strict line of demarcation between those who govern and those who are governed. Every person would be a servant of the State, but the State Officials would receive taxes, dispense benefits, and solve all human difficulties. Am I alone in thinking that after one generation such a system would become a vast despotism of the type usually called Oriental? No savage ever had a greater faith in the power of his medicine-man than the citizens of the Socialist Commonwealth would have in the Great State Officials; and I have no doubt that after being subject to the rule of these Officials for a generation, the citizens would be as mentally lethargic as the savage, or as any of those societies who have had to endure the burdens imposed upon them by an encroaching bureaucracy.

The members of the Socialist League, then, are right in thinking that in human affairs all we can do is to create an environment from which things will emerge, but their attempts at creation consist merely in reforms of the time-honoured class-war nature.

The class struggle is an old nineteenth century idea, which confuses two separate notions. In any human society there are two kinds of classes, cultural strata and economic strata.[1] By speaking of a classless society the authors of the above manifesto (which is only Marx's manifesto over again) confuse these two. Cultural strata cannot be created except by the individuals that compose them; economic strata, in so far as they are separate from and not a reflec-

[1] For some purposes society may be more accurately divided into three kinds of classes: cultural, economic, and social.

tion of cultural strata, can be abolished. But they can never be abolished by the means the Socialist League proposes. Though you can compel the adherence of all men to a State, this merely results in lethargy. As soon as a State tries to control a society, and to create uniformity, the society is doomed. If the efforts are unsuccessful it may struggle on. If they are successful the society can no longer display energy. To say that under these conditions all citizens may achieve "self-expression and happiness," is to use a universal desire in defence of a system which cannot allow that desire to be satisfied. Allow the State to be paramount, and self-expression becomes impossible. In their desire to reform society the members of the League would produce not an opportunity for universal self-expression, but something quite different, something indeed akin to the despotism of Diocletian or any other Oriental system.

I do not discuss whether or not "self-expression" is desirable. My point is that its negation would emerge from the reforms that the League wishes to inaugurate.

The notions of the Socialist League, of course, must be distinguished from those of the trade unionists, co-operatives, and other wealthy supporters of the Labour Movement. These desire to possess the sovereign power of the land in order that they may enjoy the benefits of which, under middle-class rule, they have been deprived. Only a hundred years have passed since the middle-classes wrested the power from the nobles and squires, who were then as reluctant to lose it as the middle-classes are now. And just as in their rise to power the middle-classes aped the aristocrats, so now the trade unionists and co-operatives are aping the middle-classes and the millionaires. Their ideas concerning finance, government, education are those of their peers, the only difference being the social stratum from which they are drawn. If and when they wrest the power from the middle-classes, they will treat them as the middle-classes have treated the aristocrats, robbing them of their possessions, taxing their incomes, and depriving them of their political influence.

The fact that the members of the Socialist League are allied to those rising working-classes, is due to a desire on the part of the former to use the class-war for their own purposes. They have nothing to do with the class-war as such; indeed they themselves are of bourgeois origin.

The Socialist League, then, has adopted the ideas of Russia. Its

methods are the same as those adopted by any of the dominant minorities of the past and present. But there can be no doubt that

(1) They do not bring about the results it aims at;
(2) They destroy the self-development it alleges to admire.

Communism in Russia I have discussed in the Introduction.

(*b*) CHRISTIANS

We have now to consider the opinions of Christians. This is not simple; for there is no agreement among Christians as to what is just and what is not just. Indeed, there is as much difference between the ideas of different Christian sects as there was between the ideas of the early Christians and those of the Roman Jove-worshippers. It does not matter what kind of human behaviour we take, whether it be sexual, commercial, political, or cultural: what one Christian sect praises another condemns; what one regards as "natural" another thinks "evil." Dissenters despise what episcopalians love; what Protestants punish Catholics excuse. Moreover, what Catholics once regarded as a deadly sin contemporary Catholics regard as mere frailty and even as inevitable. Their attitude towards usury is a good example of this.

If each Christian sect had a definite idea of what it meant by a just economic order I could discuss in turn the ideals of each; but this simple procedure is impossible. No contemporary Christian thinker of any kind has yet described a state of society that he would call just in all its economic aspects. True, Pope Leo XIII wrote an Encyclical on the "Condition of the Working Classes"; but in that Letter His Holiness was more concerned to state the principles on which a Christian order should rest than to describe how those principles could be put into practice. Moreover, he was evasive on several important points in regard to which Catholics once refused to compromise. Among non-Catholics there are some who continually cry that such and such a way of behaving is not "Christian"; but a thing is not described by saying what it is not; and it is characteristic of these vague Christians that they have little idea what the details of a Christian economic order would be. I must therefore

conclude that the meaning attached to the word "Christian" in the twentieth century is too indefinite for my purpose.

Not long ago, say in the fourteenth century or thereabouts, there did exist a definite way of thinking and behaving called Christian. Christian standards of conduct, judgment, and value were recognized over a wide area known as Christendom; throughout that area Christians were regarded, and regarded themselves, as men whose way of life was peculiarly their own. Men even talked of dressing like a Christian, eating Christian food, and so on.

Christendom does not exist now; times have changed. I propose to consider the more important ideals that were current among Christians when Christendom existed. We shall see that these ideals, which the Christians themselves failed to attain and which some contemporary Christians think can never be attained, are attained in Hopousia.

Contemporary Neglect of Canonist Literature

Ask the ordinary educated person about the ideas that were current in Christendom; he will murmur Usury and Just Price. These were indeed important; in fact they were probably regarded by the Christians themselves as the foundations on which their economic ideas rested. But the canonists knew well that there was more in it than that, and they had a clear idea of the structure they would like to erect on these foundations.

The fact that, when thinking of Christian economics, the ordinary educated person's mind does not travel beyond usury and just price, illustrates the neglect of canonist writings. As Ashley has said, "Canonist literature has been completely ignored in England."[1]

I think this neglect has been due in part to the illusion of progress. Among the liberal-minded men on whose opinions most of us were brought up, there prevailed the notion that time was a kind of ladder up which the "human race" was climbing. It is hardly possible to imagine a more fantastic notion than this. In the first place, the human race, which is sometimes called "mankind," is a meaningless abstraction. When we study the past we see no signs of it; all we

[1] W. J. Ashley, *An Introduction to English Economic History and Theory*, vol. i, pt. ii, p. 377.

see is a number of different societies in different places behaving in different ways. In the cultural process there is no more evidence of the human race than there is of an electronic race in chemistry. Secondly, time is not a ladder up which men climb but a dimension in which they act. It may have an arrow, as Eddington claims, but, so far as the biological and cultural processes are concerned, that only means that we cannot beget our fathers. It has nothing to do with the way we think and behave. To say that the mental processes of the Babylonians in the twentieth century B.C. were inferior to ours *because* they lived at a different point in the time-dimension is like saying that a building must be architecturally inferior to another because it is further down the street. All the same this notion of progress in time occupied a prominent place in our fathers' minds, and there can be no doubt that this was the reason for their neglect of canonist literature. They were not only repelled by anything to do with Catholicism; they also thought that everything medieval, having existed a few hundred years before, must have been primitive and therefore unworthy of attention.

Some German students, notably Endermann, did pay some attention to what was said and thought in the thirteenth and fourteenth centuries; but, as Ashley adds, "religious divisions biassed all discussions of medieval conditions." "Upon canonist teaching there is no treatise that can be regarded as impartial."

In our own country greater interest has recently been taken in the subject, but, with the possible exception of Tawney,[1] contemporary writers are no more free from religious fanaticism than were their predecessors. Indeed, the main purpose of the literature has been to "prove" that the Jesuits or the Protestants, as the case may be, were originally responsible for the introduction of the "spirit of capitalism" that each writer dislikes so much. The unanimity with which the thing vaguely called "capitalism" is now condemned is interesting, being a sign of the times in which we live; but when this has been said all that is important about the literature has been said. When trying to prove their point about the identity of those responsible for the introduction of capitalism, contemporary English students show themselves to be as biassed as the Germans. They do not even trouble to become acquainted with the facts.

Thus, in answer to Max Weber (who submitted that Protestantism,

[1] R. H. Tawney, *Religion and the Rise of Capitalism*, London, 1926.

especially in its Puritan form, had been chiefly responsible for the introduction of capitalism), a young English student criticized the Jesuits for the part theyplayed in forming the "spirit of capitalism."[1] The inaccuracy of his work was soon exposed by Brodrick[2] and by Rees. It is no part of my purpose to discuss who was responsible for creating the "spirit of capitalism." I agree with Rees that "it is not of very great importance to determine whether the Calvinists or the Jesuits played the greater part in facilitating the transition to economic liberalism."[3] Anyway those of us who are outside Christianity are less liable to suffer from religious bias than those who still keep a respectable leg inside it, and in considering the ideas that used to be current among Christians we would ask contemporary Christians to give the canonists a fair hearing. We shall then find that they had several ideas which are usually regarded now as "modern" and even "revolutionary."

The one thing we must remember is that the canonists never discussed the exchange and production of commodities used to produce other commodities. Their attention was confined to the exchange and production of commodities produced for direct consumption. In their day "capital" as we know it did not exist. Each craftsman had his tools, the carpenter his plane and saw, the mason his square and level; these were not regarded as his "capital" but merely as his tools. The idea of a saw being a "capital" item as it is in a modern saw-mill never entered the heads of the canonists. This being recognized, their ideas and ideals are easily understood.

Factors in Production

The study of political economy rests on the foundations made by the Physiocrats. Till the Physiocrats wrote, neither politics nor economics was regarded as a science in England. Theologians decided what was economically right or wrong, permissible or forbidden, and for some time after the Reformation economic affairs were still discussed in terms of personal conduct. "Even in

[1] H. M. Robertson, *Aspects of the Rise of Economic Individualism* (Cambridge, 1932), p. xi. In this book "economic individualism" is identified with "the spirit of capitalism" (p. xv, 2.2).

[2] J. Brodrick, S.J., *The Economic Morals of the Jesuits*, Oxford, 1930.

[3] J. F. Rees, *Economic History*, iii (February 1936), p. 305.

the England of the early seventeenth century, to discuss questions of economic organization purely in terms of pecuniary profit or loss still wears an air of not quite reputable cynicism."[1]

The canonists were the men who, when Christendom existed, applied theological principles to specific transactions so that men could tell whether an act was permissible or not. On the whole, therefore, the canonists' writings on economic affairs consist rather in rules for conduct than in conclusions about facts. But to this easy generalization there is at least one important exception. The schoolmen had not confined their attention to the formulation of the rules that should govern human conduct; guided by Aristotle they had also studied the nature of things; and in canonist literature we find some interesting statements about the identity of the agents that produce wealth.

Read any orthodox economic text-book; you will find it said that in production there are three factors: Land, Labour, and Capital. Gide and Rist, speaking of the Physiocrats, say that "they were a sad and solemn sect" who "soon fell an easy prey to the caustic sarcasm of Voltaire."[2] To deal adequately with what some orthodox economists say about the factors in production we seem to need Voltaire again to-day. The canonists at any rate would never have been guilty of such contradictions and confusion as we find in orthodox literature.

In this matter Marshall is as orthodox as anyone. Consider what he says:

"The agents of production are commonly classed as Land, Labour, and Capital. By Land is meant the material and the forces which Nature gives freely for man's aid, in land and water, in air and light and heat. By Labour is meant the economic work of man, whether with the hand or the head. By Capital is meant all stored-up provision for the production of material goods."[3]

That is clear enough, and, as if to emphasize the contribution made by "labour" (especially that of the head), Marshall adds: "Knowledge is our most powerful engine of production; it enables us to subdue Nature and force her to satisfy our wants." He also says that "Capital consists in a great part of knowledge and organization."

[1] R. H. Tawney, *Religion and the Rise of Capitalism*, p. 7.

[2] C. Gide and C. Rist, *A History of Economic Doctrines*, trans. R. Richards, pp. 2, 5.

[3] A. Marshall, *Principles of Economics*, p. 138.

First we are told that there are three separate agents of production, Land, Labour, and Capital, and by "Labour" Marshall is careful to say that he means mental as well as physical energy. He then says that capital consists in a great part of knowledge, which is a product of mental energy. So when we examine the three agents we find that the third one consists in a great part of what has already been defined as the second one.

The confusion in Marshall's mind only escapes the unwary reader because capital is defined as "stored-up provision for the production of material goods." "Stored-up provision"; who, on seeing the words in print, would not think that the writer was referring to material goods and the means to purchase them? Yet apparently Marshall is also thinking of "knowledge," which, according to his own confession, is not capital but labour.

Marshall's idea that capital partly consists of knowledge may be compared with his idea that a man's goods which constitute his wealth partly consist of "his own qualities and faculties for action."[1] In both cases he is guilty of a confusion between the thing that is produced and the thing that produces. And he himself is evidently troubled by the meaning he attaches to "capital" and "wealth"; for elsewhere he speaks of capital "when considering things as agents of production," and of wealth "when considering things as results of production." In each sentence "things" clearly refers to material goods only; in neither case is there any hint that either capital or wealth includes mental faculties and energy. We cannot be surprised when we find him casting doubts on his own statements; for he soon adds that "in a sense there are only two agents of production, nature and man."[2]

The medieval theologians could never have been guilty of such slipshod thought as this. The Schoolmen had taught them to perceive the difference between the thing that thinks (mind) and the thing that is thought, so they never confused the thing that produces (human energy) and the thing that is produced (a commodity). The only difference between them and us is that what we call "nature" they called "God."

Their opinion about the factors in production was this: "God and

[1] A. Marshall, *Principles of Economics*, p. 54.
[2] A. Marshall, op. cit., pp. 81, 139.

the labourer are the true lords of all that serves for the use of men. All others are either distributors or beggars."[1]

It is the custom to regard this doctrine as a modern one. Most socialists even tacitly assume that socialists invented it; and many people take them at their word. How often do we read that the notion of "labour" as the sole source of wealth was first introduced by Marx? But in this as in other matters the socialists have led popular opinion astray. The canonists proclaimed the doctrine more than five hundred years ago. The medieval thinkers were most emphatic in their declaration that a man's claim to the possession of material goods had only one basis, namely, his labour. They referred to the clergy and gentry as *debtors* to the husbandman and craftsman. To them, as Ashley points out, the land was the ultimate source of wealth; "but it needed human labour to win from it what it was able to provide."

We may conclude, then, that whatever modern Christians may think, the canonists would have condemned as contrary to the nature of things any economic system that allowed a person to amass wealth without labour of head or hand. They would also have praised a system under which only those who laboured received monetary reward. Such is the Hopousian system.

The canonists were unable to withstand the introduction of usury and the consequent creation of parasites; their successors were fated to see the introduction of ideas which created the very condition that the Schoolmen had condemned. These ideas, as we have seen, developed logically out of medieval conditions; there was nothing in the new "capitalism" that could not be logically defended by reference to the canonists' own arguments. Yet there emerged a state of society which contradicted the fundamental principles of canonist thought. By their own methods the canonists found themselves unable to secure, or at any rate to preserve, the conditions they desired; but in the Hopousian structure one of their chief ideals is attained.

Usury

The condemnation of usury was a fundamental doctrine in Christendom. So powerful was the anti-usury tradition that even

[1] W. J. Ashley, *An Introduction to English Economic History and Theory*, vol. i, pt. ii, p. 393.

after the middle of the sixteenth century Jewel, one of the ablest defenders of the Reformation, could stand up in a church in London and command men "to forsake that cruel and detestable sin." "I hear," he said, "that there are certain men in this city which wallow wretchedly in this filthiness without repentance. . . . If they continue therein I will open their shame and denounce excommunication against them and publish their names in this place before you all, that you may know them and abhor them as the plagues and monsters of the world."

It took a brave man to speak like this in London when Elizabeth was queen; and lest it should be thought that Jewel was using the word usury in a modified sense I quote his definition of it:

"Usury is a kind of lending money or corn or oil or wine or of any other thing, wherein we receive again the whole principal and somewhat more, for the use and occupying of the same. As, if I lend a hundred pounds and for it covenant to receive a hundred and five pounds or any other sum greater than was the sum which I did lend. This is that, that we call usury.

"Such a kind of bargaining no good man or godly man ever used. It is filthy gain, a work of darkness, a monster in nature, the overthrow of mighty kingdoms, the destruction of flourishing states, the decay of wealthy cities, the plague of the world, and the misery of the people. It is theft, it is the murdering of our brethren, it is the curse of God and the curse of the people. This is usury. Wheresoever it reigneth all those mischiefs ensue." [1]

This is sufficient to show that modern Marxists have not condemned "capitalism" in more extravagant terms than the canonists and their successors condemned usury.

Moreover, in that same sermon Jewel made what he regarded as the final answer to those who tried to defend usury when the money lent was used in trade:

"What if a merchant take money to usury of a merchant and both be better and both be gainers. . . . Take this as a rule, there is no usury without loss." For usury, he argued, raises prices. "Who payeth it? Any man may see. The poor people who buy." [1]

Usury, as I have explained, finds no place in the Hopousian structure, not because it is forbidden there but because it is unnecessary.

[1] *The Works of John Jewel*, ed. R. W. Jelf (Oxford, 1848), vii, pp. 63, 80. Jewel was Bishop of Salisbury.

Usury is the paying of a price for money lent. In Hopousia there is no need for it because a trusty man or a trusty group of men need not borrow. They can obtain all they want on credit, provided that the commodities they obtain are replaced by others as soon as they are worn out or paid for.

So we may say that in Hopousia another of Christendom's ideals is attained. We have traced the way in which usury entered our economic structure; we have seen that its appearance was logical and inevitable. The canonists might rail against it but they were unable to stop it or to prevent its promotion to the status of an established institution. By their own methods they failed to achieve their end; but in Hopousia what they regarded as an ideal state of affairs, represented by an absence of usury, is attained.

At the same time I wish to dissociate myself both from the arguments used by the Schoolmen in their denunciation of usury and from the compromises accepted by some contemporary Catholics.

Sometimes it is difficult to tell what is the official attitude of the Catholic Church towards usury. In regard to the Anglican Church there is no doubt; many if not most of our Anglican priests are usurers themselves. The uncertainty about the attitude of the Vatican can be illustrated by a reference to what Pope Leo XIII said in his Encyclical Letter, *De Rerum Novarum*, May 15, 1891. This Letter is still regarded as the workers' charter; it contains no explicit condemnation of usury. Nor does His Holiness make any declaration in favour of the abolition of usury. He merely condemns the greed and covetousness of usurers. After referring to the mischief caused by the subjection of working-men to "the hardheartedness of employers and the greed of unchecked competition," he says that the mischief has been increased "by rapacious usury, which, although more than once condemned by the Church, is nevertheless, under a different guise, but with the like injustice, still practised by covetous and grasping men." [1]

The precise meaning of such a passage is uncertain; for we cannot tell whether all usury is being condemned and incidentally called rapacious, or whether only some forms of usury, that is, those judged to be rapacious, are being condemned—other and milder forms of it being regarded as within the pale. The latter seems prob-

[1] *The Workers' Charter*, a translation of the Encyclical of Pope Leo XIII (Catholic Social Guild, Oxford), p. 12.

able; for if all forms of usury were being condemned we should have expected a more explicit statement of the Vatican's attitude. So it seems possible that in the opinion of contemporary Catholics the sinfulness of usury does not consist in its nature, as the canonists thought, but in its measure. But the words used by Leo XIII are by no means clear, and he may have meant to condemn usury altogether; in which case it is a pity he did not amplify his remarks by making some suggestions about the way in which it might be abolished. Rightly or wrongly, on reading the Letter carefully, I receive the impression that His Holiness was intentionally vague because he did not anticipate the disappearance of usury and thought the ideal unattainable. At any rate there is a great difference between the standpoint expressed in the Letter and the teaching emphatically emphasized in ancient Christendom.

If there is some doubt about the meaning of the appropriate passages in the Encyclical of 1891, there is none about the opinions of another Catholic publicist. Thus none hates usury more than Belloc. But, he declares, "there is no escape from it." Usury, he says, is "ultimately destructive of society," and will surely destroy us. But nothing can be done about it. "You cannot pull out a vital part of an existing social structure." Nor, Belloc thinks, would an ecclesiastical ordinance avail against usury. "If it became a matter of Catholic discipline that men should not to-day touch that unclean thing . . . discipline would stand self-condemned. The ecclesiastical order could not be obeyed." [1]

But is usury a thing from which there is no escape? Consider. Usury only exists because loans are necessary. We say that before a man or a group of men can receive a supply of commodities they must have the money wherewith to pay for them. For this purpose and for this purpose alone loans are necessary; and usury exists among us now because the loans must be paid for. But to say that a group of men must pay cash for their commodities is the same as saying that the producers of a commodity cannot receive the money that expresses its exchange-value till its consumers have produced or procured the money that expresses an equal value; which is Folly Number One. Usury exists because loans are necessary; loans are only necessary because we commit Folly Number One. Thus the conclusion must be that usury only exists because we are foolish in

[1] H. Belloc, *Usury*, in *Essays of a Catholic* (separate reprint), pp. 5, 20–1.

that particular way. If men had never committed that Folly, usury would never have come into existence at all. Far from being a thing from which there is no escape, as Belloc thinks, we could begin to abolish it to-morrow if we wished.

But, so far as a discussion of Christendom is concerned, the interest in Belloc's ideas about usury does not lie in his pessimism but in his definitions of usury. There can be no doubt that if the Schoolmen were alive to-day they would call him a great sinner.

Thomas of Aquin defined usury as payment for the use of money lent. He did not care for what purpose the money was used. He condemned the whole practice as unjust. Belloc has other ideas. He admits that the sinfulness of usury lies in its nature, not in its measure. In this, perhaps, he differs from Pope Leo XIII (if I may speak of a Catholic publicist differing from a pronouncement made *ex cathedra* by a reigning Pope). "You may demand one hundred per cent on a loan," Belloc says, "and be well within your moral rights." Usury consists in either (1) "interest on an unproductive loan," or (2) "interest on a productive loan greater than the annual increment in 'real wealth' that the loan creates."[1]

It is obvious, therefore, that Belloc would permit much that Aquinas condemned. In other words, the attitude of contemporary Christians towards usury is weaker than that of the Schoolmen.

It is usury in Thomas of Aquin's sense of the word that does not exist in Hopousia. The distinction between a productive and an unproductive loan is vicious. Originally made by classical economists who committed the error of regarding money as productive in itself, it has sunk so deep into our consciousness that we overlook the essential similarity of all loans. All loans are the same in so far as the proceeds are invested in the same things, commodities. It does not matter whether a loan is productive or not; this remains true. Every means of production, raw material, plant, machinery, etc., consists of commodities; so every productive loan is invested in commodities. It is the same with unproductive loans; they also are invested in commodities like bridges, sewers, houses, roads, etc. To say that interest on a productive loan is not usury and that interest on an unproductive loan is usury is to make an invalid distinction between two things that are fundamentally the same. Belloc's definition of usury is a compromise and is unacceptable.

[1] H. Belloc, *Usury*, in *Essays of a Catholic* (separate reprint), pp. 10–11, 21.

Another point about Belloc's ideas may be made here. He not only defines usury in a way no medieval Schoolman would have accepted; he not only says that usury will destroy us and that there is no escape from it: he also says that no man can tell whether a loan is usurious or not; for we cannot always tell whether it is productive or not. "The whole system of investment renders inquiry upon the productive or unproductive quality of an investment normally impossible." [1] According, therefore, to Belloc's definitions, usury is a sinful habit which will eventually destroy us but one which is, at the same time, unidentifiable. No wonder he is despondent. "A day will come," he cries, "it will indeed." Rubbish. We can get rid of usury if we like.

But, though it is usury in Thomas of Aquin's sense of the word that is absent in the Hopousian structure, I deny the validity of the argument he used in support of his judgment. When he referred to the saying of Aristotle that payment for the use of money was contrary to nature, he seems to have penetrated to the root of the matter; but, to rub his point in, he drew an unwarranted distinction between certain commodities.

To illustrate how unjust it is to charge a man for the use of money, Aquinas compared money with wine or corn. We consume corn when we use it for food, and wine when we use it for drink; and if we charge a man for the corn and for the use of it we charge for the same thing twice, which is unjust. In a similar way, Aquinas argued it is unjust to charge a man for the use of money; for in itself money is nothing and only has value when it is used.

The answer to this argument has already been made. The point I want to notice is that in order to make the argument, Aquinas drew a distinction between a commodity like corn and one like a house. "There are certain things," he says, "the use of which consists in their consumption. . . . On the other hand there are things the use of which does not consist in their consumption; thus to use a house is to dwell in it, not to destroy it. For this reason a man may lawfully charge for the use of his house and, besides this, revendicate the house from the person to whom he had granted its use, as happens in renting and letting a house." [2] But the whole point about it is that use does consume it. The idea that use does not consume a

[1] H. Belloc, op. cit.

[2] I use the translation made by the Fathers of the English Dominican Province.

house is one of the ideas responsible for the state of our cities, for our slums, and for the continued existence of houses recognized as unfit for human habitation. Aquinas incurred a deep responsibility when he said that use does not consume a house, and the orthodox have followed him. It is just as contrary to the nature of things for a man to charge rent for a house as it is contrary to the nature of things to charge for the use of money lent. Aquinas compared money with corn and said that use consumed it; he was wrong. Use does not consume money; therefore money cannot be compared with corn. To make his point and to justify rent, Aquinas had to distinguish between corn and a house, so that payment for the consumption of the former need not be made and payment for the consumption of the latter could be legitimately asked. Again, he was wrong; the distinction between corn and a house is invalid. Use consumes both; the only difference is in the time taken to consume them. In Hopousia as soon as a house has been consumed, that is, as soon as it has been in existence for the period for which it was built, it is pulled down and replaced by another one. This treatment is meted out to all buildings of whatever character, with the exception of those that the people decide to preserve for aesthetic or historical reasons. If a building is so preserved no charge may be made for the use of it; for it has already been consumed. The only charge that may be made in connection with it is that which represents the value of the human energy required to keep it in existence.

When Aquinas said that renting and hiring a house was lawful and just, and renting and hiring money was unlawful and unjust, he denounced and approved the same thing in the same breath. For money is only a symbol that expresses the value of a commodity, and a house is a commodity. It is a pity that the Schoolmen supported their judgment by so many bad arguments; for the opinion afterwards became common that their judgment must also be bad.

For further medieval opinions see Appendix IX.

(*c*) DISTRIBUTISTS

The Distributists have said, "A just society is our aim," and they have a clear idea of what they mean by a just society.

I summarize the main points of their programme. First they seek the Restoration of Liberty, by which they mean that every man shall be allowed to behave as he likes unless by doing so he prevents the exercise of a like right by others. "The right of liberty is not restricted to one particular liberty, to liberty of religion, conscience, action, and so on; it is the right of choice in all things in which the exercise of the choice does not injure the right of choice of others" (p. 1). [1]

For reasons discussed in the fourth chapter this kind of liberty is necessary to the Hopousians; without it they would not be able to behave in the required manner. I have explained how the liberty will be secured. In each of his capacities a man will have a bracket within which his behaviour is completely free. This bracket is created by himself in conjunction with the other members of the various groups to which he belongs. It is the function of Parliament to see that this is so. The Lawyers' Gild watches over each person's and each group's rights. Every year a report called *the Queen's Complaint*, addressed to Parliament, and published when received, gives a full description of the cases that have come to the lawyers' notice during the year. This Complaint is considered by Parliament at its annual sitting. After the debate the Premier makes a report to the Queen; this is also printed. Such publicity usually provides the cure, but Parliament may direct action to be taken or legislation to be prepared, in order that a specific item may be attended to. It then discusses the subject again at its next sitting, and considers what is written about that matter in the new Complaint. It usually finds that further action is unnecessary. If anything has to be adjusted the experience of the preceding year is valuable as a guide.

The Distributists are almost unique among modern reformers in recognizing (p. 11) that the possession of liberty entails the acceptance of responsibility.

Distributists dislike (p. 16) "the making of decisions with judicial effect (in private) by anonymous and irresponsible Government officials." This kind of law will not exist in Hopousia; but the Distributists' dislike of it should be remembered, for in some of their proposals they suggest reforms that would encourage the increase in such law. The more rules a society makes the more likeli-

[1] The references are to *The Distributists' Programme* (The Distributist League, London, 1934).

hood there is of corruption, because the number of "inspectors" is increased. In Hopousia no man makes a rule for other people to obey. Gilds make their own rules for their own members, and themselves see that the rules are obeyed. These rules create the bracket within which each member is free to act. The bracket is as wide as possible and is only limited to what is necessary to keep the group together.

There are few inspectors in Hopousia; those that exist are appointed by the inspected, not by some external authority. There are no building inspectors, for instance, appointed by the people who place a contract. Each gild inspects its own work. The architect is finally responsible. There is no reason for any contractor to use cheap materials; the material is supplied to the architect's order by the Gild of Builders' Merchants. The prices of the material are published annually and do not vary during the course of a year.

Distributists abominate the expense of litigation (p. 15). This expense is due to legal charges. In Hopousia no such charges are made to any litigant, who merely pays hearing fees if he loses his case. Lawyers are salaried men, paid to perform certain services for their fellow-men. Their salaries are paid by the Lawyers' Gild, i.e. by themselves; the money is placed to the credit of the gild by the Controller, who obtains it from the deductions, made for the purpose, from the National Dividend. No increase in salaries is possible except by the consent of Parliament; but the gild can have as many members as it likes, provided that it performs the services required of it, and does not spend more than Parliament ordains, and provided also that no man receives less than Parliament ordains.

Distributists protest (p. 15) against such corruption as the influence of advertisers upon the owners of newspapers, and the pressure put on M.P.s to use their votes for or against any given measure. I have already mentioned this element in our life. The income of advertisement-carrying journals is known to the Accountants' Gild; a proportion of this income is taken by the Controller on behalf of the community and used for the benefit of the consumers who pay for it in the long run.

No pressure can be put on M.P.s, for, where legislation affecting producers is concerned, Parliament can only act after the Guildhall has considered the matter; in the case of merchants after the Merchants' Guildhall have considered the matter; in the case of the

social professions after the appropriate Guildhall has considered the matter. Parliament may demand that any gild take action in any detail; it may also demand a report concerning what has been done; but it can initiate no punitive measures. Parliament may, however, tell the Controller, who is under its orders and responsible to it, to withhold the income of the gild, or the contracts of a producing gild, or to seize the premises of a merchant gild, till the matter has been put right.

It seems, then, that in Hopousia the political desires of the Distributists would be fulfilled. It is the same with their economic reforms. In economic matters they know what they want but are not always clear how to get it. They make some general remarks about the means that should be adopted to bring about a state of affairs they would call just; but they have not published the details of how they would reorganize our economic life. They say that such things as dumping, cornering, and deliberate underselling to ruin a trade rival are "morally inexcusable and socially disastrous." They would make such behaviour criminal. But they do not say how they would judge whether a man deliberately undersold or not. Nor do they define how they would tell whether a man was trying to corner or not.

This is because they do not alter the bracket within which a man is free. Our economic system permits these things; many of our citizens praise the man who gets rich by cornering or deliberate underselling. In Hopousia the bracket would be so placed as to exclude any possibility of these things. If a man attempted to undersell in order to ruin a trade rival then his gild would expel him and he would not be able to trade to all. There is no point in allowing and encouraging certain conduct and then calling it criminal. Crime is a relative thing and society places the bracket where it likes. The Hopousian policy is to reduce to a minimum the number of crimes by making the man punish himself through his gild. The State does not enter into the matter except to give the gild power to act. An expelled member can appeal to law for redress against his gild; but he can do no more than that.

Distributists say (p. 16): "Another form of competition which must be ended is that of the labour-market."

In Hopousia there is no labour-market. Money is a symbol that expresses the value of human energy; any money-unit is a symbol

that expresses the value of an energy-unit. On this basis the Hopousian economic system rests. Parliament ordains the value of each energy-unit. Everyone knows what this value is; none has the power to change it. And Parliament cannot change it without giving a year's notice to the Guildhall. If a man's monetary reward were dependent on chance, as it is among us, or were a matter of bargaining, the Hopousian economic system would collapse.

But the Distributists' Programme is not all negative. They consider that a Restoration of Liberty is itself not enough; for it does not secure "two other material elements essential to the full development of the human soul" (p. 1). These two elements are "security and material sufficiency." In practice this means (p. 12):

(1) that the large majority of producers shall own their own means of production;

(2) that those who prefer to work for a wage only shall have

(*a*) some alternative available means, "whether by access to the land or otherwise."

(*b*) the power by their own exertion to become owner producers themselves if they wish.

Let us take (1) first. The position in Hopousia is that each member of a gild owns his own means of production if the production of the commodity does not involve the co-operation of other men. But when production involves a number of men these men are formed into a gild and the gild owns the means of production. Any other situation is due to Folly Number One. It does not matter what is being produced—units of electricity, boots, cloth, clothes, churches, cinematograph pictures, scientific instruments, machinery, coal, ships, engines, furniture, paper, flour, bread, anything: in Hopousia this rule holds good. Those that produce own the means of production.

In regard to (2), Hopousians who do not wish to produce a commodity, or to merchant commodities on their own responsibility, or to join a social or economic profession, may become wage-earners and assist the men who do any of these things. But whatever a man does he is a member of a gild, and the gild is responsible for him for so long as he acts within the bracket of its rules. No gild accepts a person unless there is room in that trade, and there is no incentive to close a trade since its extension does not reduce the

emoluments of the persons in it. A gild is always keen, for its own glory, to obtain the best men; and, since their introduction does not displace but merely saves labour only a decrease in the level of production is a risk to a wage-earner. This level does not decrease when a certain commodity ceases to be produced; for a distributor (there are no wage-earning producers, remember) turns to something else. The level is only affected when the total exchange-value of production and exchange is reduced. This involves a reduction in the amount of money in circulation, reduces both the surplus value available for the use of productive gilds and the profits of the members of the merchant gilds. But it does not necessarily involve the dismissal of the wage-earning staff. If it does, and the gild agrees that the dismissal was just, then the matter becomes one for the gild, who may take it so far as the Guildhall. For if one member of the gild is dismissed justly for economic reasons most of the other members of the gild will also be dismissed. And when a whole gild suffers the Controller has to step in. He then takes such steps as the Guildhall decides, either increasing production to augment the work of merchants or putting the merchants' gilds that have suffered on to some kind of productive work.

If a wage earner is dismissed unjustly then his gild informs the Employers' Gild of their opinion and demands action. If no action is taken then the whole of the Wage Earners' Gild withhold their labour until they are satisfied. There is no possibility of the merchants being able to get labour elsewhere; so the battle is a straightly fought one. The gilds either fight it out themselves or appeal to the Controller. By doing the latter they automatically agree to accept his decision. If one side refuses arbitration the battle goes on till some sort of settlement is reached. The Controller may not interfere in any wage dispute without being appealed to by both sides. Members of productive gilds are not allowed to cease production under any conditions. In Hopousia trade disputes which can result in a withdrawal of "labour" only affect wage-earners, that is, those who neither produce a commodity nor distribute commodities on their own responsibility.

I think that this may be taken to satisfy (2)(*b*) of the Distributists' programme. For in Hopousia any wage-earner can become a producer at any time by being accepted by a productive gild.

It is difficult to know what the Distributists mean by (2)(*a*), where

they say that every wage-earner must have some alternative means of subsistence "whether by access to the land or otherwise." There is a limit to the number of acres in any country; by reclaiming, irrigating and such work the number of productive acres may be increased, but the number can never be infinite, and I do not see how any society can possibly guarantee to any person free access to the land. True, the Distributists say "whether by access to the land or otherwise"; but they do not explain "otherwise," and I think it may have been inserted to cover some mental vagueness.

Large conglomerations of capital

Distributists insist (pp. 16–18) that their ideals cannot be reached where there exist large conglomerations of capital. I have already explained that these cannot come into existence except in a society that commits Follies Numbers One and Two. Since these Follies are not committed in Hopousia large conglomerations of capital do not exist there.

Land

Distributists say (p. 17 f): "A further focus of attack must be the owners of large landed estates."

In Hopousia (as theoretically in England) none except the Sovereign owns land; each man has heritable rights over land that he occupies. This seems to achieve the Distributists' purpose.

Tied Houses, whether inns, hotels, cinemas, theatres, or labourers' cottages

Distributists say (p. 18): "Another manifestation of the landlord system is in 'tied houses,' whether it be a public house, cinema, or labourer's cottage. Here ownership is abused to give an unfair advantage over competitors . . . A 'tie' is an abuse of a monopoly."

Ties are the product of Follies Numbers One and Four. In Hopousia an innkeeper, hotel, cinema, or theatre proprietor cannot be tied to anyone. The "proprietor" may be an individual man or a partnership of any number of men up to five. Whichever he is he is independent and trades for himself alone. He is a member of the appropriate gild, which governs the rules that control his trade.

Company Law

The Distributists (p. 18) would like to see "extensive reform of the Company Law, to avoid the use of that simple device for escaping personal responsibility, to prevent interlocking control by parent and subsidiary companies and to prohibit multiple directorships."

None of these things exists in Hopousia; there are no limited companies, which are only necessary in a society that commits Folly Number One.

The State

Distributists declare (p. 24) that they do not look to the State "as the only possible or even the best protector of distributed property. . . . Once property is distributed individuals in co-operation must evolve their own protective institutions and supersede the State in that function."

The type of institution to which they refer involves "the co-operation for their mutual benefit of all those engaged in the same vocation, productive, commercial, or professional."

This is the function of the Hopousian gilds. But the member of a productive gild would not be able to receive what amount of money he liked out of the money earned by the productive efforts of his gild. The gilds do not exist for profit but for production.

The Distributists say that the type of institution they have in mind would be "based on the gild of medieval times." In many ways the Hopousian gilds are not unlike the medieval ones, but the productive gilds are more important than the merchant gilds. This was not always so in medieval times. Moreover, the Hopousian gilds, being economic units, would not interfere, as the medieval ones did, with local government. True, circumstances seem to have changed from century to century in medieval times, but for the most part the dominance of the merchant gilds and an interference with the local administration—(sometimes the governing body of a gild seems to have been the local administration)—are fairly constant factors in the economic history before the sixteenth century. Again, the Hopousian gilds, while they are chartered like the medieval ones, cannot distribute their profits as they like. Each man's share is limited by what is regarded as the worth of his energy.

Banks

The attitude of the Distributists towards banks and banking is interesting. They desire "adequate credit facilities" for the small man, and to have a "literal meaning" attached to the word credit. They advocate (p. 29) "democratically managed savings institutions whose resources are used for making loans to those members who can show that they can put the money to good use and can be trusted to repay it."

Here the Distributists run the risk of committing Folly Number One. To lend money belonging to other persons, even to a man of resource, ability, and integrity, is simply money-lending with or without security. In Hopousia every such man has credit facilities; the word credit is given its fundamental meaning; but other people's money is not lent to him. The money representing the commodities he has purchased is specially issued for him, and for this the community gives him credit. Any other system of helping must in the end produce stagnation in the society. The system recommended by the Distributists could never fulfil the purpose they desire. The Hopousian system is, I think, the only one which would.

In Hopousia the bank-manager decides whether an application for credit shall succeed or not. In arriving at an opinion about the man's prospects of repayment, the bank-manager is assisted, if he wishes, by the Accountants' Gild. In forming an opinion about the man's integrity he receives the advice of private citizens specially elected for the purpose by their fellow-men. I do not know if the Distributists would regard this as a "democratically managed institution." If so, the Hopousian credit system fulfils the purpose they require.

Co-operative Societies

The Distributists criticize co-operative societies as they exist among us now. Originally formed "as the only weapon of the working-classes against a particularly insidious form of exploitation," the co-operative societies, they say, are based "on an ideal which is entitled to respect." But the enormous size to which they have grown "has seriously impaired their original democratic constitution." "Though offering some opposition to the encroachment of monopoly they do so only by imposing what is an only less objectionable

monopoly." "A man is a wage-slave whether he has one employer or ten thousand." Which is rhetorical, but may be true according to how "slave" is defined.

From the Hopousian point of view the modern co-operative society does not differ from any other large capitalistic enterprise except in its method of distributing profits. Its managers have the same standard of conduct and value as the bourgeoisie; its directors have the same mentality and outlook as the directors of capitalistic concerns. The only question is who shall have the profits and the jobs. It is readily granted that in their first years the co-operative societies were less insidious than other merchant concerns, but in Hopousia they do not exist. There is no need for them. The merchant gilds distribute commodities at a fixed rate.

Town and Country

Distributists say (p. 25 f): "there is a principle which is necessary to the health of the community. . . . It is that of the preservation of the balance between town and country life, between industry and agriculture."

Such a balance will be preserved in Hopousia. Any lack of it is due to the Follies.

Repopulation of the Land

The Distributists are among those who regard the repopulation of the land as desirable. They consider (p. 26) that within ten years half a million families could be settled on the land. But they do not say how the job would be done. "With the incidental problems of the acquisition of land, the enrolment and training of settlers, the provision of buildings and stock and so forth there is no space to deal here."

Land settlement has been much discussed in our country, but few acres have been settled because: (1) land can only be procured at a high price; (2) the families when settled on the land are so burdened with debt that their chance of success is small; (3) the production of cereals and roots is not profitable. (All our farmers are now subsidized.)

The high price of land is due to Folly Number Four. The burden of

debt imposed on the settler is due to Folly Number One. So long as we commit these Follies no land settlement scheme is possible. In regard to the marketing of produce the matter is simple in Hopousia. The farmer delivers his produce to the mill or merchant; its money-value, if not paid in cash, is placed in the bank. The price is fixed by the Merchants' Gild and accepted by the Farmers' Gild. If they cannot agree they may appeal to the Controller, on condition that they accept his decision. If they neither agree nor appeal by a certain date the Controller dictates a settlement.

The Distributists (p. 27) claim that in any land settlement "there must be no repetition of the regrettable mistakes of the past when men have been put on the land and have found their produce impossible to sell." Distributists do not say what facilities they would afford or how they would arrange for the marketing.

They aim, they say, "to create free-holders." There is no other system of land tenure in Hopousia. A man holds the land he occupies and no more. Land held in fee simple cannot be sold; nor can the holder of it sell his rights over it. The rights are inheritable but not saleable. Land is held by each Shire-reeve, for the inhabitants of the shire.

Finance and Currency

On this question, beyond declaring that reforms are necessary, the Distributists are silent. But they make one important observation. "Our problem," they say, (p. 29 f), "is not to procure an improvement in the monetary system which would have the sole result of relating more closely the amount of money to the actual wealth of the country. Such an adjustment would still leave the poor without wealth, which would remain in the hands of the rich. Money is only a claim to wealth; and those who have neither would only be indirectly affected by the change. The need is to transfer a large part of the wealth, and particularly the capital wealth, of the rich to the poor."

A difficult sentence, because "transfer" might suggest robbery. As I have said, the accumulation of wealth in the hands of a few persons is the direct result of the Follies. Remove the Follies, and the thing is done as the Distributists desire. But things can never be done as they desire so long as the Follies remain.

We see, then, that in Hopousia the Distributists would get what they want. In their view Hopousia would be a "just society." But we must also note that by their own methods, so far as those methods are divulged, they would not get what they desire, but something else, even what they desire to avoid.

They dislike (p. 16) rings and cartels "where the capitalist owns an undertaking but is himself controlled, principally in matters of price and territory." They add (p. 17) that "the most potent weapon against the combine which exists only for the purpose of profit must always be the attack on those profits by means of taxation."

It seems difficult to discover whether or not a combine exists for profit or protection. Moreover, it is also difficult to discover whether such a combine exists at all. The Distributists propose a system of graded taxation. But is not such a proposal an interference with the liberty of the citizen as they themselves define it? Perhaps this point is one to which they refer when they confess that some of their proposals are "inconsistent with others" (p. 14). At all events those who advocate liberty must always be on their guard against giving liberty to those whom they like and taking it away from those they dislike.

In Hopousia any undertaking, if it requires the energy of more than one man, is owned by a gild. I think that gilds would naturally tend to confine their efforts to certain territories, but no such agreement would be binding. It would be merely tacit and emergent, convenient, and therefore advantageous, never dictated. If any definite arrangement were made in writing the Council of the Gild, "the body charged with making the rules governing all gilds producing a like commodity," would take action. A clause in the Charter of each gild would say that rings and cartels are contrary to the purpose for which the society exists. But even that is only put in for the sake of emphasis. Since price depends on the cost of production, and raw materials are purchased from the same source, at a fixed price that everyone knows, there is no point in rings and cartels. Each gild rewards its own members at the same rate and uses the same materials. There is no danger of price wars in Hopousia.

Graded taxation is also put forward by the Distributists as a cure for large landed estates. They would tax a man according to the size of the rents he received from land. The man who occupied his own home would escape this tax entirely. This might work; but I do not

see how they can regard it as "just." In Hopousia a man only holds the land he occupies. There is no such taxation as the Distributists propose.

Graded taxation is also their remedy for maldistribution of property (p. 24). Local tariffs and quotas are also mentioned, but I doubt if these would enable the Distributists to secure their desires. I do not imagine that the exchange of commodities would be more convenient in England if Suffolk could place a tariff on goods from Norfolk; or if Birmingham made arrangements to accept so much wheat from each of those shires. It seems to me that the process of commodity-exchange would become top-heavy with officials, returns, and custom houses. The Distributists also ask for "government guarantees of the prices of primary products" (p. 21). That smacks of a bureaucracy and a socialism which they say they despise.

Finally, they say (p. 32): "Do for yourself. Make yourself economically independent." But economic dependence is the essence of liberty. Liberty is not a factor that emerges out of a state of independence; that is subjection to Necessity, which leaves no time for anything except the struggle to exist. Liberty as they themselves define it, is liberty to develop. No man can develop without the aid of his fellows. The Distributists say that they want liberty in order that men may develop their "great natural talents, spiritual and material." But no such development can ever take place if every man is trying to be economically independent of his neighbours. I do not wish to criticize a phrase if it is merely rhetorical; but rhetoric is a danger if it misleads. I cannot see that the Distributists would obtain the liberty they want by the methods they propose. Strangely enough, however, it would emerge out of the Hopousian system.

BOOK V

If entropy holds good at all points of space and time, there is apparently a Purpose in the cosmos. The fact that it may not be easily grasped by the human mind does not lessen the probability of this Purpose.

Strangely, but perhaps significantly, the purpose of our experiment seems to agree with the Purpose in the cosmos. Surprisingly, what idealists and reformers call "social evil" appears to consist of anything that conflicts with that Purpose.

Our knowledge of the external world is scanty and untrustworthy; so there is danger in laying too much emphasis on the apparent uniqueness of the earth. But, as far as can be judged from the available evidence, we live on a unique earth, which is part of a unique solar system placed in a unique galaxy. The temperature, velocity, and density of the earth seem to be of more importance than its size, for it is these that make it possible for the human organism to exist. The human organism itself creates the cultural process. If entropy holds good the cultural process is emerging out of the material and biological processes.

On the face of things, chance, as an explanation of the cosmos, would seem to demand more stretching of the imagination than would design.

CHAPTER XII

Ne Plus Ultra

THE OTHER PLANETS
THE SOLAR SYSTEM
THE FREQUENCY OF PLANETARY SYSTEMS
THE UNIQUE SOLAR SYSTEM
THE MOON
THE GALAXY
THE EXTRA-GALACTIC NEBULAE
THE INFLUENCE OF TRADITION AND TEMPERAMENT
CHANCE OR DESIGN?

THE experiment has been conducted, but we have not yet done. Hopousia is a new event in the cultural process. Before we finish we must consider it in its relation to the events in the material and biological processes; for with these processes the cultural process is indissolubly associated. I began by talking about Process; so also I end.

The first thing to recognize is that all existence is contingent. Everything that exists is as it is because it exists here now or there now. Change these conditions, and the thing becomes something else and may even cease to exist at all. No matter whether an event is material, biological, or cultural: it cannot occur unless the conditions are ripe for its growth, and it cannot remain in existence if these conditions no longer prevail. Thus, water can only happen in a certain temperature. If we change the temperature in which it exists the water ceases to be water and becomes ice or steam, as the new conditions demand. It is the same with an organism. Organisms can only come into existence on matter of a certain density. If we change the density of the matter supporting them they cease to exist; for the conditions necessary for their existence are no longer fulfilled. Similarly, social energy can only be displayed by human

societies under conditions of compulsory continence. If a society, or any group within it, ceases to satisfy this condition, its behaviour alters; its energy disappears; it may even disintegrate and cease to be a society at all.[1]

So far as the material process is concerned, the mathematical physicists were the first to emphasize this, but in their popular writings they often appear to forget it. When they communicate with one another they express their meaning in mathematical symbols; but in writing for "the people" they are accustomed to use a number of homely illustrations which, though undoubtedly useful, are often misleading and sometimes conceal the truth.

Take, for example, the question of the expanding cosmos. The extra-galactic nebulae appear to be receding from our galaxy at a speed that increases with their distance. Such behaviour is not only predicted by the relativity theory but also deduced from spectroscopic observations, which reveal a shift to the red. But the manner in which the phenomenon is described sometimes gives the impression that, whatever velocity the nebulae may have, they remain nebulae. That is impossible. If their velocity is increasing their mass must be increasing too. If the velocity of any nebula ever reaches the velocity of light it will no longer be a nebula but will have become light. It is only a nebula as we see it because it moves at a certain velocity, and therefore has a certain mass, a certain density, and a certain temperature.

Again, to illustrate the queer nature of time-consciousness, the mathematical physicists sometimes ask us to consider the case of a man who shoots away from the earth at "nearly" the speed of light. We are then asked to believe that when the man returns from a vast circuit of the stars he will regard himself as having spent, say, only a year on the job; whereas, according to our earthly computation, he will have been away for some hundreds of years. Barnes says: "Why the time of consciousness for the man on the ball should go much more slowly than for ourselves has not, I think, been satisfactorily explained."[2]

But if the velocity of a material event changes, its mass changes

[1] A good example of contingent existence is the tail of a comet, which appears when the comet comes within the aura energized by the sun and disappears when the comet moves out of the sun's field of force. (E. W. Barnes, *Scientific Theory and Religion*, p. 244.)

[2] Ibid., p. 113.

too. At "nearly" the velocity of light the Fitzgerald contraction is "nearly" infinite. If a man sat on a ball and the ball began to move at "nearly" the velocity of light, the ball would cease to be a ball and the man would cease to be a man. He would therefore have no time-consciousness at all. The time of which we are conscious is not something in which we exist but an experience of our minds, dependent on the conditions of our existence. We cannot wonder that Barnes has never found a satisfactory solution of his problem.

In trying to explain the simpler mysteries of relativity, the mathematicians sometimes ask us to imagine that we are in a railway train which is being overtaken by a faster one. When, facing the direction of our relative advance, we look out of the left-hand window, we see the fields and appear to be travelling forwards; but when we look out of the right-hand window we only see the overtaking train. We ourselves then appear to be travelling backwards.

This means that we cannot trust appearances. In our study of the stars we may lengthen our eyesight to any extent by using a telescope, but our senses can never tell us what the cosmos is like. Our habitation of the earth dictates to us a point of view that gives us false impressions of relative motion, deceives us about distances and dimensions, and generally distorts space. We see the stars in a certain relation with one another, but this relation is only such and such because we are standing on a platform that travels at a certain velocity relative to the sun, which in its turn travels at a certain velocity relative to other stars. If the earth had a different velocity or the sun occupied a different position in the galactic system, the cosmos would present a different appearance. What now appears square might then appear oblong. Space would still be distorted, but it would be distorted in a different way.

To rub this point in, the mathematician sometimes asks us to consider the events in the cosmos from the standpoint of an observer on another nebula or star. This observer, we are reminded, would have a different idea about distances and dimensions and would fit cosmic events to a different frame of space; and his ideas would be as valid as our own. But neither his ideas nor ours have any absolute value, for there is no such thing as absolute distance. All distances are relative. As Eddington puts it, "the distance reckoned by an observer on one star is as good as the distance reckoned by an observer on another star. We must not expect them to agree; the

one is a distance relative to one frame, the other is a distance relative to another frame." [1]

To-day this sounds a simple truth. But we must not forget that no observer on any other star could have human faculties and senses. No such creature could possibly exist on a star that had a different velocity from that of the earth.

In writing for themselves, of course, the mathematicians and astronomers recognize this; but in their popular writings they are apt to forget it. The result is that the plain man, for whom these books are written, often fails to understand it. At any rate he seldom remembers that he is only a human being because he is attached to a certain event (the earth) which has a certain velocity, a certain mass, a certain density, and a certain temperature. If these conditions had never been fulfilled he could never have come into existence. If they ceased to prevail he could exist no more.

In the study of the cultural process this is most important. To assess the relation between Hopousia and the events in the material and biological processes, we must first remember the contingent character of all existence and then work backwards so far as our limited knowledge of the material cosmos will allow.

The Hopousians are unlike any people that have ever existed in so far as they display the greatest possible amount of human energy unceasingly. But this supposition involves the assumption that the conditions necessary for the support of human life will continue to prevail. Is that assumption justified?

There is also another point. Hopousian behaviour is an event in the cultural process, which is being created by men on the earth now, but this is only so because the conditions necessary for the support of human life prevail on the earth now. Do they prevail elsewhere in the cosmos now? Or does the cultural process concern the earth only? I take this second point first.

In considering it I have no intention of compromising with the rationalists, who in the course of their phantasy-making are often inclined to speculate about origins. William James once declared that "in the study of the relation between thought and brain the ultimate of all ultimate problems is to understand why and how such disparate things are connected at all." [2] James probably expressed

[1] A. S. Eddington, *The Nature of the Physical World*, p. 21.

[2] W. James, *Principles of Psychology*, n.d. (preface dated 1890), i, p. 177.

himself in this loose manner because he was writing for rationalists and felt bound to use their language. A scientist must speak in more exact terms and be content with a lesser goal than that. We do not know why the human being possesses consciousness, and it is not the scientist's job to inquire. If he expresses any opinion about it, teleologically, it is not as a scientist that he speaks but as a rationalist, a deist, or a theist, as the case may be and as his temperament demands. Among the men who have studied the data we are about to discuss, Jeffreys is outstanding. Protesting against the phantastic conjectures of some of his colleagues, he has said: "The task of science is to coordinate observed data and predict observable ones. . . . It is not the task of science to explain the unknown and unknowable."[1] That is well said, and in the study of human affairs we shall be wise if we remember it.

William James himself was too good a scientist to waste any time in searching for an answer to "the ultimate of all ultimate problems." After stating the matter in the above-quoted manner, he said: "Before the connection between thought and brain can be explained it must at least be stated in an elementary form." James then added: "There are difficulties about so stating it."

The difficulties arise from the fact that it is hard to describe the connection between two phenomena till we know what the phenomena are. It is simple enough to write the word "thought," but no man has yet been able to say what it is. All we know is that it exists and that human beings are capable of it. That is the observed fact, and the task of the scientist does not go beyond it.

I adopt this attitude in discussing consciousness. We do not know what it is. All we know is that the human organism possesses it. That is the observed fact, and we must begin there.

A rationalist usually does more than speculate about origins. As a phantasy-thinker, he is inclined to think that what he *feels* to be true is true. Thus Barnes confesses to a "feeling" that "the cosmos was created as a basis for the higher forms of consciousness." Apparently Barnes is not happy to think that the human organism is the only form of life to possess consciousness; so for his own mental comfort's sake he invents other such forms. He realizes that life and mind as we know them cannot exist on the stars; so, to make his

[1] H. Jeffreys, "On the Origin of the Solar System," *Monthly Notices of the Royal Astronomical Society*, xcii (1932), p. 888.

dream secure he is compelled to assume that consciousness can be allied with some other physical structure than that of the human organism. "For all we know," he says, "mind might appear elsewhere in connection with complex physical changes in highly developed organisms of a nature wholly different from ourselves, organisms which could only 'live' where the matter of which they were composed was in the state in which it exists in the bright stars."[1] In such a sentence the looseness of the language obviously arises from looseness of thought. It is possible to conceive a pig that has wings and flies, but who would found an induction on the phantasy? His conception would only have a psychological interest, which would consist in the fact that such a dream should occur to him. In a similar manner it is possible to conceive the existence of a conscious being consisting of other cells than those that constitute the human organism; but a man cannot be taken seriously if he regards his phantasy as having an objective existence and then founds a philosophy on it.

In a more scientific mood Barnes calls consciousness "an epiphenomenon of the organism."[2] That sounds well, but all it means is that consciousness is a factor that has emerged in the human organism. And that is the limit of our present knowledge. It is useless to speculate whether or not any other kind of being can possess consciousness; we only know that consciousness exists in the cosmos because the human organism is seen to possess it. That is the observed fact; and the question whether or not the cultural process is proceeding elsewhere in the cosmos resolves itself into the question whether or not it is possible for human beings to exist elsewhere than on the earth.

THE OTHER PLANETS

To support human life, a planet must have an atmosphere that contains oxygen. A planet like Mercury has not enough gravitational pull to retain an atmosphere; so human beings could not exist there. Besides, Mercury is too hot. The atmospheres of the larger planets, Saturn, Jupiter, Uranus, and Neptune, seem to contain hydrogen but

[1] E. W. Barnes, *Scientific Theory and Religion*, p. 402. [2] Ibid., p. 582.

not oxygen; so they too are ruled out. Besides, they are all too cold. Mars and Venus are the only other members of the older solar system that could rival the earth as a possible place where a cultural event might occur.[1]

Venus is almost the twin of the earth in size and density; but, since it is covered in mist, we cannot tell how fast it rotates or in what direction its axis lies. Eddington has conjectured that its surface is all ocean; but Russell, summarizing the latest researches, has declared that "the real puzzle is the apparent absence of water on the surface of Venus."[2] The temperature of the planet is said to be suitable for human beings; though nearer to the sun, it is probably not much warmer than the earth. The density of its atmosphere is also satisfactory, but men could not live there, for the atmosphere apparently contains no oxygen. Venus, as we know it, might possibly support fish but no mammals.

Mars, unlike Venus, can be seen and studied. Its colour is red. Smaller than the earth, it has only a scanty supply of water and air. There are no seas on Mars; a large proportion of the planet's surface must be desert. Clouds exist, though perhaps uncommonly. The telescope reveals faintness which in some seasons grows darker and extends. This has been compared with the change that takes place in the appearance of the earth in spring-time, so there may be some vegetation on Mars. But the latest observations suggest that the presence of mammalian life is improbable. The conditions of observation prevent confident assertions, but recent researches suggest that the Martian atmosphere, which is much thinner than that of the earth, contains no oxygen or water-vapour. Besides, Mars is a little chilly for human beings; even at the equator the temperature falls below freezing point at sunset. Schiaparelli's suggestion that some odd markings on the planet represent artificial irrigation has not found acceptance.[3]

[1] For some comments on the atmosphere of the larger planets, see A. Adel and V. M. Slipher, in *Nature*, 134 (July 28, 1934), pp. 148–49, and R. Wildt, in *Nature*, 134 (September 15, 1934), p. 418. Also H. N. Russell, "The Atmospheres of the Planets," *Nature*, 135 (February 9, 1935), pp. 219–26.

[2] A. S. Eddington, *The Nature of the Physical World*, p. 171; H. N. Russell, op. cit., p. 225.

[3] A. S. Eddington, *The Nature of the Physical World*, p. 172, says that the Martian atmosphere "has been proved to contain oxygen"; but the latest observations, conducted at Mt. Wilson and described by H. N. Russell in the above-quoted article, contradict this.

Russell thinks that Venus may be at the beginning, Earth in the middle, and Mars at the end, of what he calls the evolutionary career of a planet. According to him, Venus is now as Earth was before the biological process began. He also conjectures that organisms may have existed on Mars at some previous point in the time-dimension. But of all evolutionary theories those of astronomers are admittedly the least trustworthy, and apparently those of Russell are less acceptable than any. Commenting on extant theories of stellar evolution, Barnes has said: "No man can at the present time say what is the true picture of stellar evolution. A number of ingenious theories have been propounded. In each there are too many speculative hypotheses to permit of certain conclusions." In that passage Barnes is referring to Russell's theory that stars begin as cool giants, shrink and become hotter, cease to be gaseous and become liquid, and then cease to shrink and radiate their energy away. Barnes adds that "this simple picture of stellar evolution has failed to meet criticism."[1]

I do not see, then, how we can accept Russell's suggestion that at some time biological events may have occurred on Mars. If his theories about stellar evolution are unacceptable those about planetary evolution cannot be trusted. Barnes himself considers that there may have occurred on Mars a growth of such mental activity as is displayed on earth by ants, bees, and wasps; but of this there is no evidence. Barnes also imagines the possibility of some development "associated with a physical structure different from that of the human organism."[2] That, as I have said, is pure fancy in support of which there is no evidence at all.

Parenthetically, Barnes's suggestions must always be considered in the light of the fact that throughout his scientific writings he confuses the machinery used for thinking (brain) with the thing that thinks (mind). He also tends to confuse the biological and cultural processes by disregarding the difference between human faculties and those of other mammals. He is a great mathematician but when he discusses human affairs his personal predilections greatly influence his conclusions.

There is another point about planetary evolution. All men agree that the planets were born at the same time; they were then either

[1] E. W. Barnes, *Scientific Theory and Religion*, p. 347.
[2] Ibid., p. 327.

like or unlike. If like, how is it that they are different now? If unlike, how can they have had a similar evolutionary career?

But we need not worry our heads about it. All conjectures about planetary evolution are valueless, for we do not know how the solar system was formed or how the planets began.

THE SOLAR SYSTEM

One thing is certain: the solar system is not a normal formation but a freak. That at any rate is Eddington's word for it. And this freak cannot have been produced in an evolutionary way. The only possible evolutionary explanation is rotational instability, and rotational instability does not give rise to a planetary system but to a binary star or to multiple stars. To account for the existence of the solar system, we have to hypothesize a celestial accident of a most uncommon kind.

No really satisfactory or acceptable theory has been devised, but most men think that the planets were produced in some way or other from matter ejected or removed from the sun. True, Lindblad does not believe this;[1] nor does Nölke, who has suggested that "the system has come forth from a widely spread cosmic nebula having shape and structure and splitting up into several parts, which conglomerated and formed the sun and the planets."[2] But Nölke seems almost alone in thinking this; and, since his reason for discarding the more common opinion is, as we shall see, not scientific but temperamental, I do not propose to describe his views at greater length.

The more common theories are the tidal theory and the collision theory. The latter was recently formulated by Jeffreys, who till then held the tidal theory. His reasons for withdrawing his support from the tidal theory are technical and have been criticized by Filon, who, after considering them, concludes that there is no reason why this theory should be abandoned.[3] According to the tidal theory,

[1] B. Lindblad, "A Condensation Theory of Meteoric Matter and its Cosmological Significance," *Nature*, 135 (January 26, 1933).

[2] F. Nölke, "On the Origin of the Solar System," *Monthly Notices of the Royal Astronomical Society*, xciii (1933), p. 160.

[3] L. N. G. Filon, "Note on the Tidal Theory on the Evolution of the Solar System," *Monthly Notices of the Royal Astronomical Society*, xciii (1933), p. 104.

originally propounded by Chamberlain and Moulton, modified by Jeans and Jeffreys, and now commonly held, at least in England, the planets were dragged out of the sun by the gravitational pull of another and more massive star which happened to approach it closely enough to exert a gravitational influence on it.

We obtain some idea about the unlikelihood of such a close approach if we consider the nature of stellar distances.

Nowadays a million is a favourite number with astronomers and financiers; but, even if it has some exact meaning for them, it has not for many other people. Few persons can visualize a million of anything. But astronomical distances cannot be expressed by any other figure. Indeed, for stating the distance of stars outside the solar system even a million miles is too small a unit of measurement. To express the distance of any except the nearest stars, time has to come to the support of space which alone cannot give any idea of the distances involved.

Take our tiny solar system first. Venus is about 26 million miles away, Mars about 35 million, and Mercury about 47 million. To get any idea about the distance to the nearest stars we must multiply these distances by a million. The Centauri cluster is about 25 million million miles away, Sirius about 51 million million. And these stars are comparatively close to us. When we consider the distance to more distant stars we have to abandon so short a unit of measurement as a million million miles and speak in terms of light-years. Light moving at 186,000 miles a second takes about four and a quarter years to reach us from the Centauri cluster, and nearly eight and three-quarter years from Sirius. To appreciate the distance to other stars we must multiply these figures by thousands. The diameter of our galaxy is said to be about 220,000 light-years.

Jeans happily expressed the vastness of galactic distances when he said that the light by which we see some clusters of stars was emitted by them before the human organism appeared on the earth's surface. "Through the childhood, youth, and age of countless generations, through the long prehistoric ages, through the rise and fall of dynasties and empires, light has travelled steadily on its course, covering 186,000 miles every second, and is only just reaching us now."[1]

The average distance from one star to another is not less than the average distance from our planetary system to the stars. Yet, to

[1] J. H. Jeans, *The Universe Around Us*, p. 63.

account for the existence of the planets, we must assume that in some way or other a star approached our sun within the orbit of Neptune, exerted a gravitational influence on it, and disrupted it.

Eddington has said: "The density of distribution of stars in space has been compared to that of twenty tennis-balls roaming the whole interior of the earth. The accident that gave birth to the solar system may be compared to the casual approach of two of these balls within a few yards of one another."[1]

I confess I do not like this illustration, which tends to suggest in regard to space an idea that has had to be abandoned. What we call space cannot be regarded as a physical thing,[2] but it is not an empty something into which matter was once put. Rather is it the distance between stars and nebulae, a something definitely created by the cosmical constant and by the fields of force developed by vast variable masses of matter. On being examined, these appear to consist finally of energy alone, and it is apparently this energy combined, I suppose, with the cosmical constant, that keeps the celestial bodies away from one another. But the space so created is neither uniform nor homogeneous; and it is surely dangerous to compare the distribution-density of stars in space with that of a few tennis-balls roaming the interior of the earth unless the tennis-balls are imagined as having fields of force and thus as creating, or helping to create, an amount of space equal to the interior of the earth. Until this is done, the illustration seems inapt. But if we consider the odds against one of the tennis-balls approaching within a few yards of another we certainly get some idea of the odds against the formation of a planetary system, and we immediately perceive that in the galactic system planetary systems must be very rare indeed. Yet no event in the cultural process can take place until such a system has been formed.

It must be emphasized that, in spite of much search, no other planetary system than our own has been discovered; our system is the only known planetary system. But we cannot definitely say it is the only one in existence; for our ignorance about the existence of other such systems may be due either to the inadequacy of our instruments or to the fallibility of our senses. The only scientific way in which we can arrive at even an approximate conclusion about the

[1] A. S. Eddington, *The Nature of the Physical World*, p. 177.

[2] E. A. Milne, *Relativity, Gravitation, and World-Structure*, p. 10: "The phrase 'physical space' has no meaning."

existence of another such system is to calculate the odds against its formation.

THE FREQUENCY OF PLANETARY SYSTEMS

Barnes, as well as some other mathematicians, has tried to calculate the odds, which obviously depend upon the age of the galactic system, the velocity of the stars composing it, their mass, and the density of their distribution. Barnes takes Jeans's estimate of the system's age and the mass of the sun as a fair average for that of a star. He assumes that the distribution of the stars is about 1 to 10 cubic parsecs and reaches the conclusion that the time-interval between successive encounters in the experience of any star is about 5×10^7 years. This means that, if we take the average life of a star to be 5×10^{12} years, only one star in a hundred thousand could ever form a planetary system. If the average life of a star, "as may well be," is 5×10^{10} years, only one star in ten million could ever form such a system. If, as has been suggested, there are 30,000 million stars in the galactic system, and if the average star-density throughout the system is that of the local star-cloud, there *might* be 3,000,000 planetary systems in the whole thing. "But if planetary systems originate in actual collisions there may be merely a few hundred of such systems in our universe."[1]

Since the collision theory has not been commonly adopted, I make no comment on the odds against a collision; but it is worth while to examine the method by which the odds against an encounter are calculated.

The basis on which the calculation rests is most insecure. The age of the galactic system is really unknown; any estimate is a guess. Doubtless the guess is an intelligent one, but therein lies its danger; for, if we are not careful, we treat it as if it were a demonstrated truth. It is strange, too, to find Barnes using Jeans's estimate, for he himself has said: "All experts who have speculated on the age of the galactic system have recognized the ingenuity and intellectual power shown in Jeans's investigations; but it must be admitted that doubts as to their accuracy have increased during the past few years."[2]

Barnes also admits that "the total number of stars in the universe is

[1] E. W. Barnes, *Scientific Theory and Religion*, pp. 398–401. [2] Ibid., p. 364.

doubtful."[1] With this opinion we must agree. The estimates vary from 30,000 million to 100,000 million; that is to say, some estimates are more than three times as large as others. But even if all astronomers agreed in accepting one estimate we could hardly trust it; for it is quite possible that in computing the number of stars in any cluster an astronomer counts the same star several times. Barnes says: "If our space is Riemannian, as is probable, it may be . . . that the astronomers see stars several times over; the light by which the secondary, tertiary, etc. stars are seen will have passed once, twice, etc., round the Universe."[2]

Then there is the question of dark stars. No man can see them, so they are not much talked about, but they exist, and some astronomers believe that there are as many dark stars as bright ones. Such an opinion is not a matter of fact but of faith; anyhow the existence of dark stars in any number would completely upset all calculation about the frequency of planetary systems.

We must conclude, I think, that the number of stars in the galactic system, as well as the age of the system, is really unknown. This means that a calculation based on any estimate of these is valueless. Moreover, I doubt if Barnes is justified in taking the size of the sun as a fair average for that of a star. There are a number of stars more luminous, but a far greater number are less luminous, and a rough average like that is a risky thing to base a mathematical calculation on. And the star-cloud of which the sun is a part has so many odd features that it is surely rash to take its star-density as characteristic of the whole galaxy.

We have to remember—and it is no idle carping to point it out—that many of the data published by astronomers are not authentic truths but rough-and-ready approximations. Consider, for instance, the figures put forward as a fair average for a spiral nebula. The period of a nebula's revolution is deduced from the time required for the condensation in one arm; its distance and mass are calculated from its period. Thus the period of M51 is put at 45,000 years; of M81 as 58,000 years; of M101 at 85,000 years; and of M33 at 160,000 years. An astronomer takes the average of these four figures, 87,000 years, generalizes from it, deduces that the density of the average nebular nucleus is 4×10^{-27} grammes per cubic centimetre.

[1] E. W. Barnes, *Scientific Theory and Religion*, p. 351. [2] Ibid., p. 95.

Aided by spectroscopic observations, which tell him the velocity of a nebula's rotation in kilometres per second, he also arrives at the conclusion that M33 is 6,000 light-years away, that its diameter is 100 light-years, and that the diameter of its nucleus is 4 light-years. Density and mass are also calculated in the same rough way. From the context I cannot judge whether, for the purpose of these calculations, the period of M33 is taken as 160,000 or as 87,000 years; but this, I suppose, must be regarded as a minor matter. I do not say that the estimates are incorrect; they are probably correct; but the degree of probability does not seem to be high.[1]

It may be objected that at the present stage of our astronomical knowledge nebular statistics cannot be expected to be trustworthy, and that it is therefore hypercritical to expose them. Our certain knowledge of bodies near the earth is no greater. We cannot even tell the age of the earth itself. This is sometimes estimated according to the rate at which uranium has been thought to disintegrate. Figures up to 1,600 million have been suggested for the earth's age. But even a moment's consideration compels us to dismiss the estimate as a mere dream. First, there is involved in it the unverified and unverifiable assumption that all lead in the district selected for observation was produced out of uranium. Secondly, we have no means of knowing the rate at which uranium explodes. Half of it is said to explode in 6,000 million years, half the remainder in another 6,000 million years, and so on. But we do not know if a proportional rate is preserved throughout the time-scale. Nor has any man yet offered an explanation of the fact that some uranium still exists. Uranium is either being continually created or not. If not, how is it that some uranium exists now? If it is being continually created, how can the age of the earth be calculated from the state any piece of uranium is in now?

Those who try to calculate the age of the earth in this manner place themselves on the horns of a dilemma from which there is no possible escape. And if we cannot tell the age of the earth on which we live, what chance is there of being able to tell the age of the stars? I am not alone in regarding any estimate as unworthy of trust. Jeans himself has warned us that "our estimates of stellar ages

[1] I take my figures from J. H. Jeans, "The Nebular Hypothesis and Modern Cosmogony," *Halley Lecture* (1922), pp. 13–15.

may be found to need revision."[1] Barnes makes no secret of his doubts about the value of our ideas on the ages of even the nearest stars. "We cannot say with confidence," he remarks, "either when the stars of even the local star-cluster were born or what has been the course of their evolution."[2]

It seems, then, that any calculation about the frequency of planetary systems has only a post-prandial interest. It is a pleasant thing to talk light-heartedly about, but it has little scientific value. Besides, it is by no means certain that the tidal theory can be accepted. The more we examine the planets, the more freakish they appear. For instance, the most commonly accepted theories of stellar evolution demand the assumption that an increase in density is accompanied by a decrease in mass. But a detailed study of the solar system reveals that among the inner planets the reverse is the case; the order of increasing density is also that of increasing diameter. This puzzle has never been solved. The tidal theory requires that the filament giving rise to planets should break up rapidly and that the formation of separate planets should be a matter of hours only; whereas increased density with increased diameter can only be accounted for by assuming that the inner planets originally formed only one or two bodies which broke up subsequently. And this, as Jeffreys says, is "inconsistent with the argument for a catastrophic origin of the planets."

In other words, the solar system is such a freak that Jeffreys almost gives up the problem of how it was formed. For the origin of a planetary system, he says, "neither rotation nor direct solar tidal action nor resonance seems adequate."[3] "The problem of the origin of the solar system is still unsolved."[4]

THE UNIQUE SOLAR SYSTEM

We thus arrive at an impasse, and we must do one of two things. We must either abandon as scientifically unanswerable the question of the solar system's place in the cosmos, or we must adopt the tidal

[1] J. H. Jeans, *The Universe Around Us*, p. 81.

[2] E. W. Barnes, *Scientific Theory and Religion*, p. 364.

[3] H. Jeffreys, "The Constitution of the Inner Planets," *Monthly Notices of the Royal Astronomical Society*, xciv (1934), p. 824.

[4] Idem in *Nature*, 135 (December 14, 1935), p. 933.

theory with all its shortcomings. In the latter case we must rely on the calculations that the mathematicians have made about the frequency of planetary systems. These calculations, as I have said, are based on untrustworthy data and are admitted to have little value; but, if we discard them as useless, we must adopt the first alternative and confess the inability of scientists to answer the question yet. This, I think, is the more intelligent thing to do, but it is a little disappointing; and I feel the mathematicians should be given every chance. My distrust arises from the fact that when they divide, multiply, add, and subtract their symbols they assume that the entities expressed by the symbols remain the same. The assumption is at least hazardous. Before entities can be expressed by means of symbols and then divided or multiplied we must have evidence that the division or multiplication does not alter their character. The queer nature of a cosmos created by a mathematician may be due to the removal of his mind from a consideration of the conditions upon which cosmic existence depends.

Still, we have nothing more suitable than the tidal theory, and no other guide than the mathematicians. Let us then accept the theory and see where the mathematicians lead us. We will also assume that Barnes is correct in thinking that one star in ten million *might* form a planetary system. This leads to a conclusion that is most disconcerting to any but the strongest mind.

In his calculation Barnes omitted three vital factors. An essential factor in the tidal theory is that the approaching star should be more massive than the star about to be disrupted. In his calculation Barnes made no allowance for this. He took the size of the sun as a fair average for that of a star; and his estimate of the frequency with which planetary systems might be formed was based on the assumption that a planetary system results from an encounter between two stars of average size. But this is not the case. If in the course of its evolution a star shrinks in size, a planetary system can only be produced by the gravitational influence of a younger star upon an older one. Time is an essence of the event. It is useless to calculate the odds against an encounter between average-sized stars; the encounter must be between two stars of different sizes.

The second factor that Barnes omitted is equally important. Everyone who holds the tidal theory agrees that the planets cannot have been formed gaseous. The encounter with a more massive star

must take place at a certain state in the other star's career. If it is in any other stage when the star approaches, no planetary system will be produced. So, to account for the existence of the planets, we may not hypothesize a mere encounter between two stars of different size; we also have to assume that the encounter took place at a time when the smaller star was of a certain age.

Finally, to produce a planetary system the more massive star must move at a certain (unknown) velocity relative to the smaller star, not too rapidly, not too slowly, gradually overtaking or being overtaken by the smaller star. If it travels at too great or too small a relative velocity no planetary system will be formed. Since the mass of a star depends on its velocity, this means that the disrupting star may be only more massive to a certain extent. In other words, the encounter has to take place not only at a certain stage of the disrupted star's career but also at a certain stage in the other star's career. If either of them are at any other stage of condensation, no planetary system will be produced.

These factors obviously increase to an almost ridiculous extent the odds against the formation of a planetary system. If Jeans's estimate of the galactic system's age is correct; if the density of the stars throughout the system is that of the local star-cloud; if the life of a star is 5×10^{10} years, only one star in ten million can ever approach another star so closely as to produce a planetary system, should circumstances permit. To discover the odds against the actual production of a planetary system we must now make allowance for the other conditions that must be satisfied. We must first reduce the figure of one in ten million by a proportion to fit the requirement in regard to the relative mass of the disrupting star. We must then reduce the figure by a further proportion to fit the requirement that the disrupted star has ceased to be gaseous. At what figure shall we put these proportions? I have no idea. Nor, I think, has anyone else. One in one thousand each? Then only one star in ten million can ever have a planetary system.

Three hundred thousand million is the highest estimate I have ever seen given for the total number of stars in the galactic system. It seems, then, that according to the only scientific method capable of answering the question, there can only be one planetary system in one galaxy.

I repeat my conviction that, so far as physical science is concerned,

the question of planetary-system frequency is at present unanswerable. We do not know how such a system could be formed; the tidal theory seems the only possible one. Even if we accept the tidal theory there is no secure basis on which any man can make a trustworthy calculation of the frequency with which stellar encounters of the appropriate kind are likely to take place. Still, if we insist on having the only scientific answer that can be made, the answer is this, namely, that there can only be one planetary system in our galaxy.

This conclusion is supported by the fact, which must be accepted for what it may be worth, that no other planetary system except our own has ever been discovered.

It is doubtful, I emphasize, if any scientific opinion can be expressed; but if it can the opinion must be that the earth, on which the cultural process is now taking place, is unique in the solar system and that the solar system is unique in the galaxy.

THE MOON

The earth is not only unique because it is part of a unique solar system and because it is the only planet in that system capable of supporting mammalian life. It also possesses a satellite, the moon, which is unique among satellites. The earth is the second smallest planet to possess a satellite; yet the moon is the fifth most massive satellite in the solar system. It is just over one-eightieth of the earth in size. Moreover, besides being exceptionally massive, it is also unexpectedly dense; and this places it in a class by itself. No man can tell how it was formed; all that can safely be said is that the manner of its formation must have been unlike that of any other satellite. Jeffreys contends that the moon "has probably had a very different origin and history from any other satellite." [1] Eddington says that if ever he meets a being from another world he will feel very humble in most respects, but he will be able "to boast a little about the moon." [2]

Most men used to think that the moon was born out of the earth; the cavity occupied by the Pacific Ocean was supposed to be the scar

[1] H. Jeffreys, *The Earth*, p. 37.
[2] A. S. Eddington, *The Nature of the Physical World*, p. 171 f.

it left. This theory supported some ideas about the origin and existence of dry land on the earth; the cavity was thought to fulfil the function of draining away water. If the cavity did not exist the continents might well be submerged; if it had never existed no dry land could ever have been formed. This theory has been used to account for the apparent condition of the planet Venus. If the surface of Venus is at present water, dry land may be absent there because Venus has not produced a satellite and therefore has no cavity for the water to drain into. But there is no agreement among astronomers concerning the surface of Venus and some even say that it is not water at all. Still, there is some reason to believe that only the cavity occupied by the Pacific Ocean permits the existence of dry land on the earth. If this is so, and the cavity was once occupied by the matter that now forms the moon, the birth of the moon was the event that permitted the cultural process to begin.

But many men doubt if the moon was formed out of the earth. Impressed by the difficulty of assuming their previous union, Jeffreys has suggested that they were never united and that the moon has been a separate entity ever since the early catastrophe that formed the planets.[1] It is indeed hard to understand why two objects, if at one time united, should now differ so greatly in density; but if the moon did not come out of the earth no man can understand how it was formed or how the earth got into its present shape. All we know is that the moon-earth combination is as odd, to us, as the solar system, and the more we study it the more odd it appears.

THE GALAXY

Moving our minds outwards from the solar system we first meet the local star-cloud, of which the sun is a member. Most star clusters seem to lie in the plane of the Milky Way, but the local star-cloud lies at an angle to the plane. The cloud is thought to have the same flattened shape as a spiral nebula and to contain millions of stars; but there is something very peculiar about the apparent movements of these stars. In trying to solve the mystery, an observer is faced by a difficulty which is perhaps insuperable; for it is one of obser-

[1] H. Jeffreys, "The Resonance Theory of the Origin of the Moon," *Monthly Notices of the Royal Astronomical Society*, xci (1931), p. 172.

vation. It is simple enough to calculate the orbits of two observed bodies, but when three bodies are involved, if each is within the field of force of the others and therefore subject to their joint influence, the nature of their orbits is an almost unanswerable riddle. How improbable, then, that we can calculate the orbits of the millions of stars in the local star-cloud? All we can do is to strike a rough average. Yet by that means we may be concealing the existence of some important exceptions to the general rule.

Normally, stellar or nebular rotation takes place in one direction only, but the stars in the local star-cloud, so far as we can judge, move in opposite directions, and no man knows what to make of the fact (if it is a fact). As soon as the spiral nebulae had been discovered and photographed, astronomers began to study our galaxy with vigour, to see if they could find in it any traces of spiral structure. These were soon found in abundance, and the conclusion was drawn that the galaxy was a spiral nebula of an ordinary kind. But the puzzling movements of the stars in the local star-cloud temporarily unsettled this conclusion, and some men began to think that our galaxy was not an ordinary nebula at all but a unique association of two or more nebulae, whose stars had intermingled with one another in a manner as yet inexplicable.

This idea received support from the accepted estimates of the system's size. Indeed, on being examined most things about our galaxy seemed to be unusual. Its period, estimated to be 300 million years, was considerably longer than the estimated period of any other nebula, known or suspected; and Shapley did not fear to emphasize its exceptional character. If the extra-galactic nebulae were islands, he said, our galaxy was a continent.

This view has now been abandoned. The commonly accepted theory of stellar radiation demands the assumption that the galaxy is expanding. If our ideas about stellar evolution are true, the galaxy should double its size in 30 million million years, though less and less rapidly. Thus, to account for its size, we do not need to postulate a union of galaxies; its size may be a reflection of its age.

Again, the calculations of its velocity are based on a study of the nearest stars, whereas, if the galaxy was once a spiral nebula and still rotates, the law of gravitation requires that the outer stars should travel more slowly than the inner ones. This may vitiate many other calculations which have been based on averages; for stars seem

much more numerous in the outer part. And here another difficulty is met with, for we cannot really tell which is the outer part. It used to be thought that the sun was at or near the centre; but the present opinion is that the centre lies in a massive star-cloud in or near Ophiuchus, about 47,000 light-years from the sun.

All of this is very puzzling. Some sense can be made of it so long as we accept the usual theories of stellar evolution; but these theories are by no means easy to defend. In the study of individual stars the difficulties seem less, but as soon as systems of stars are considered the difficulties increase. For instance, in the Pleiades cluster there are small stars which were almost certainly born small and are not evolved out of big ones. This, as Eddington says, makes us very sceptical about the normal scheme of stellar evolution.[1]

Again, the evolutionary theories assume that the stars now in our galaxy were born in it; whereas Milne is confident that in the galaxy there are "foreign members which have arrived from other galaxies," as well as "proper members of our own galaxy." So many of Milne's suggestions pass the observational test that his ideas about "interlopers" must command respect, especially as Larmor's observations support his mathematical predictions. A common acceptance of the "interloper" will upset current evolutionary theories. Indeed, the distinction between "proper and "foreign" stars is based on those theories, and all the observed data assume a different aspect if those theories are completely abandoned and a fresh start is made.

A further disadvantage incurred by the inquiring student is that our knowledge of cosmic events, being gained through our senses, is subject to limitations we cannot control. In speaking about internebular movements we must remember that we do not see the nebulae as they are but as they were when they emitted the light that reaches our eye. It is the custom among mathematicians to speak of any nebula up to 100 million light-years away as being "in our neighbourhood." That gives us some idea of the distances involved. Moreover, since the nebulae appear to be moving away from our galaxy, we can never see one in a more advanced evolutionary stage than our own. Furthermore, if the evolutionary theories are even roughly true, the nebulae farthest from us should appear to be in a less advanced evolutionary state than the ones nearer to us. As Milne has said, the distance sequence should be the statistical counterpart

[1] A. S. Eddington, *New Pathways in Science*, p. 170.

of the evolutionary sequence. Observations do not seem to support this conclusion. So far as our galaxy is concerned the whole idea of an evolutionary career must be regarded as uncertain.[1]

THE EXTRA-GALACTIC NEBULAE

The danger of saying anything about the extra-galactic nebulae is apparent when we remember that, to a thinker like Milne, the revolutionary suggestions made a year or two ago are already out of date. He even apologizes for "tilting at obsolescent modes of thought," by which he means Eddington's ideas about space. He also criticizes Eddington's conclusions on other fundamental points and generally plays havoc with the notions introduced into astronomical speculations by minds that are idealistically inclined. According to Milne, the cosmos is a finite expanding system containing an infinite number of sub-systems. Sub-system is his term for an extra galactic nebula. His reason for thinking that the number of sub-systems is infinite is that it cannot, he thinks, be finite. He considers that the cosmos may have begun as a point. In the course of his argument, as he himself admits, he goes beyond "the domain accessible to observation"; so this is where we have to take our leave.[2]

As I write, a hundred eager minds are studying the extra-galactic nebulae, like excited boys with a vast new meccano set. The nebulae are being pulled to pieces, examined, constructed and reconstructed. Doubtless their secrets will soon be dragged out of them. Will more and more research reveal more and more exceptions to our preconceived ideas about evolutionary change? At any rate the size and period of each nebula; its contents in stars, novae, cepheid variables and star-clusters and clouds; its density and temperature, are being examined. And the facts, such as they are, represent what each nebula was like 100 million or more years ago. What the nebulae are like now is a question which has no meaning. We do not even know if they still exist. It is even possible that some of them were never there but represent a second, third, tenth, hundredth, or millionth impression of a single nebula already seen in a different

[1] The data mentioned here are discussed by Milne in his *Relativity, Gravitation, and World Structure*, pp. 136, 199, 256 ff.

[2] E. A. Milne, *Relativity, Gravitation, and World Structure*, pp. 113, 120, 125.

-tate. It is also possible that when we look at some of the nebulae we re looking at our own backs. We cannot tell. Moreover, whatever onclusion is drawn about any nebular event it is likely to be out of ate before the printer's ink is dry upon the page.

THE INFLUENCE OF TRADITION AND TEMPERAMENT

Under such circumstances, when the facts are uncertain and the time-scale is continually being altered to suit those uncertain facts; when evolutionary theories, commonly held, can only be defended by those content to disregard the evidence that conflicts with those theories; when the collection of fresh data merely serves to upset accepted opinions and to show on what a slender basis our cosmological conclusions rest: then it is only to be expected that in astronomical speculations the temperament of the observer and the inherited tradition of our society should both play a prominent part. The former can be allowed for; the influence of the latter is less easily extinguished. But the more I think and learn, and the more I reflect on the mysterious relation between the three parts of Process, the more I am convinced that the time has come when the ideas we have inherited must be questioned. No man can study human affairs for long without perceiving that the human organism is inherently conservative in its ideas; preconceived notions die hard; but the evidence is that in an energetic society if they are false they do die at last, and I am confident that if the next two generations retain their mental energy they will manifest towards the external cosmos an attitude totally different from the one that is orthodox now.

Since the sixteenth century astronomers have worked in the shadow of Copernicus, who persuaded his fellow-men that appearances are deceptive and that the earth really travels round the sun. He also published his opinion that the cosmos was finite and spherical, with the sun at its centre. The invention of more powerful telescopes killed that opinion, but men still continued to believe in a heliocentric cosmos; at any rate they were convinced that the idea of a geocentric cosmos was contrary to observed fact.

A century after Copernicus came Bruno, who declared that the cosmos was infinite and contained innumerable suns like our own. He was burnt, but his suggestions were adopted by Kepler and

Newton, who accepted without question the idea that there was nothing unique about the solar system. After that a belief in an infinite cosmos containing an infinite number of solar systems, each comparable with our own, became orthodox. And so matters stood till recently.

The question whether the cosmos is finite or infinite is not now relevant. Space is no longer regarded as an empty something in which matter exists but merely as the distance between celestial bodies. Process does not take place inside space; the forces that create the events in Process also create space. Time has become a dimension in which Process is taking place (though this kind of time must be distinguished from the time that is relative to each observer). The result is that Milne can design a cosmos which at any moment of time is finite but whose contents are infinite in the time-dimension. True, Einstein enclosed the cosmos by making an arbitrary addition to one of his equations, but few men hesitate to open it up again if it suits their purpose to do so, and the idea of an expanding cosmos, which appears to be forced upon us by the results of spectroscopic observations as well as by relativity theory, can easily be understood as indicating finiteness or infinity, as we choose. It depends whether we have regard for the fourth dimension or not.

Bruno's tradition survives, not in his ideas about infinity but in his assumption that planetary systems are common. Everything about the solar system has been discovered to be unique; none other is known; no man can say how it came into existence. Yet the old tradition remains. True, there are signs of its disappearance. Thus, instead of confidently saying that innumerable other planetary systems must exist, Eddington merely imagines "a few rival earths here and there." [1] But everywhere we find traces of the old idea, and we often read a sentence like this: "We may reasonably conjecture that planetary systems, although not the normal accompaniment of a sun, must be fairly freely scattered in space." [2] This conjecture cannot "reasonably" be made since it conflicts with such facts as our crude senses can collect. It was only made because the writer had been trained in the Bruno tradition.

[1] A. S. Eddington, *The Nature of the Physical World*, p. 178.

[2] J. H. Jeans, in *Evolution in the Light of Modern Knowledge*, a collective work, p. 29.

It is not long since Eddington proclaimed: "We have to realize that the planet on which we stand is of no great account in the general scheme of nature." [1] It needs courage to question such a definite statement, but the truth is that there is no evidence to support it. It could never have been made if the Bruno tradition had not still been strong. The smallness of the earth compared with the vastness of the cosmos does not necessarily affect the significance of the earth in the cosmic process. It is surely more reasonable to think that the significance of the earth depends upon its quality, its velocity, density, temperature, and atmosphere.

When Bruno conjectured that in the cosmos there were innumerable suns, each with a planetary system, he also inferred that the existence of men on earth was not a very extraordinary affair. It was for this inference he went to the stake. Perhaps his martyrdom gave the notion strength. At any rate it survived and still thrives. But it is a rationalistic conjecture, not a demonstrated truth; and if we examine what the astronomers and mathematicians say about the significance of men in the cosmic process we find that they speak as the mood of the moment dictates.

I have already quoted what Eddington thought in 1922. Since then he has expressed several different opinions, all of which seem to owe their character to a temporary mood.

In 1928 he felt disinclined to believe that "the whole purpose of the Creation has been staked on the one planet where we live"; but he thought that "*at the present time* (his italics) our race is supreme." "Not one of the profusion of stars in their majestic clusters looks down on scenes comparable to those which are passing beneath the rays of the sun." Men were called Nature's "greatest experiment." [2]

In 1932, referring to the report that our galaxy was exceptional in many ways, Eddington declared his personal dislike of the idea. He also seemed to be tempted to judge the significance of the earth by its size. "I rather dislike," he said, "the imputation that we belong to the aristocracy of the universe. The earth is a middle-class planet, not a giant like Jupiter, nor yet of the smaller vermin like the minor planets. The sun is a middling sort of star, not a giant like Capella but well above the lowest classes. So it seems wrong that we should

[1] A. S. Eddington, "The Theory of Relativity," *Romanes Lecture* (1922), p.3.
[2] A. S. Eddington, *The Nature of the Physical World*, pp. 177–8.

happen to belong to an altogether exceptional galaxy. Frankly, I do not believe it." [1]

Not a very convincing argument, but perhaps it is not meant to be an argument. Eddington was probably trying to secure in the minds of his readers the humility he felt appropriate to the understanding of his thesis. He did not wish anyone to approach the subject of the expanding cosmos with the uniqueness of the earth uppermost in his mind. "If we are in a privileged position," he added, "we shall not presume upon it."

By 1934, however, his mood had definitely changed. Men were no longer Nature's greatest experiment but her "one little inadvertence." Their presence on earth was due to "a trifling hitch of machinery," as a result of which "some lumps of matter (the planets) of the wrong size" were formed. "These lack the purifying protection of intense heat or the equally efficacious absolute cold of space. Man is one of the gruesome results of this occasional failure of antiseptic precautions." [2]

Such remarks, of course, are great fun; life here now would be dull without them. Nor should I ever desire them to be consistent with one another. My point is that they are merely jetsam thrown on the shore of conversation by the sea of wit. They may not be accepted as scientific truths though some persons, having regard for the high authority from which they emanate, are inclined to accept them as such. Temperament, not knowledge, is responsible for them.

Sometimes temperament does more than this and leads a mathematician into religious controversy, or at least persuades him to despise certain opinions because other Christian sects hold them.

Barnes, as I have already said, feels that the purpose of the cosmos is to produce what he calls "the higher forms of consciousness," though he does not tell us what these are. To satisfy his longing for a cosmos that contains them, he must inevitably believe that life in some form exists pretty well everywhere in the cosmos, and he eases his disappointment with men by proclaiming that in many places the development of life "has reached stages immeasurably in advance of that attained by man upon the earth." There is not the slightest evidence that this is so; in fact all the evidence points the

[1] A. S. Eddington, *The Expanding Universe*, p. 5.
[2] A. S. Eddington, *New Pathways in Science*, p. 309 f.

other way; but for Barnes the conclusion is such a psychological necessity that he is content to ignore evidence. We gain some insight into his mind when we consider this sentence: "Though to-day we no longer unquestionably accept Bruno's idea that space is infinite, yet increasingly we are confirmed in the belief that there must exist many inhabited worlds other than our own."

The word "increasingly" is of great interest. All the evidence and argument published during the last few years have suggested that the solar system is unique and that there is no other inhabited world than our own. What is it, then, that increases Barnes's belief in the existence of other inhabited worlds? He would probably be ready to admit the unique character of the earth if he could regard its existence as anything else than a fortuitous affair. "Even if it should in time be demonstrated," he says, "that the solar system is probably unique in the cosmos, I think that such uniqueness would be of no satisfaction to the religious man who was told that the origin of the system lay in the chance encounter between two stars. To ascribe the source of this earth and of life upon it to mere chance would undoubtedly offend religious sentiment. It is clear, however, that such offence would be lessened by the thought that other similar encounters had produced a vast distribution of life-bearing planets throughout space. The presence of such a vast distribution would be an indication that accident was the handmaid of design." [1]

I cannot see why the existence of a fortuitous earth should offend and the existence of a million fortuitous earths gladden the heart of a religious man. Mass-production seems a poor way to make accident the handmaid of design. But the point that interests me most is that Barnes should assume that the existence of an apparently unique earth, with an apparently unique satellite, in an apparently unique solar system, in a possibly unique part of a possibly unusual galaxy, must be ascribed to mere chance.

CHANCE OR DESIGN?

This is an old problem, and I doubt if a study of the material process helps us towards a more effective solution than those put forward in ancient times. Consider briefly such data as our crude senses have enabled us to collect.

[1] E. W. Barnes, *Scientific Theory and Religion*, p. 403 f.

Having extended our eyesight by the use of the telescope, recorded our observations by photography, and increased the amount of our deductive knowledge by using the spectroscope, we find that our sun is part of a great concourse of stars, roughly bun-shaped, which lies at an angle to the plane of the Milky Way. This arch of faint light is really a still greater concourse of stars and forms the central plane of a colossal galaxy, also roughly bun-shaped. Beyond the confines of the galaxy (if such an object can be said to have any confines) is a vast, perhaps infinite, number of similar galaxies, whose distance from one another seems to be increasing. Their relation appears to be such that any one of them, from its own point of view, is the geometrical centre of the whole system, which constitutes the known cosmos. From the standpoint of any galaxy the arrangement of cosmic events is such that the system is locally homogeneous, but its density of population increases outwards, at first by slow and later by rapid degrees, ultimately perhaps to infinity, but about that we cannot tell.

Evolutionary thinkers have suggested that the galaxies were formed out of original chaos, sometimes called a super-atom, and that, having assumed a spiral form, they rotated and threw off a cloud of gaseous matter. Some portions of this matter are still to be seen in that condition; other portions have increased in density and split up into smaller parts, which we call ordinary stars. These exert a gravitational influence on one another, have orbits, rotate, and, while they have enough energy, radiate.

This simple evolutionary scheme by no means explains all the observed facts, but no man has yet put forward any acceptable comprehensive suggestions about such exceptions as the cepheid variables, dark stars, and novae. In this connection we must remember that they are only exceptions because our evolutionary theories make them so. For all we know they may actually be the rule. Their numbers are unknown.

Again, the normal schemes of stellar evolution are contradicted by the occurrence of such events as the Pleiades, a cluster in which small stars seem to have been born small and not evolved out of big ones. Our evolutionary schemes also overlook the question of "interlopers," stars that leave one galaxy, cross inter-nebular space, and join another galaxy. It is also relevant to point out that it is mathematically possible for the cosmos to have begun as a point and

not as a super-atom. It is only our evolutionary theories that make us assume the existence of chaos before the arrival of spinning nebulae.

It is usually assumed that our galaxy, in which there are certainly some interloping stars, is similar to other galaxies; but this may be a conclusion read into, not out of, the facts, the value of which is considerably reduced by observational difficulties which are perhaps insuperable. No estimate of nebular sizes can be accepted as anything but a rough approximation, subject to revision; but, so far as we can tell, our galaxy is much larger than any other one, known or suspected. It has even been suggested that it is not a single nebula but a union of two or more nebulae, though no man has yet been able to say how nebulae could unite, or, having united, could remain so. Still, the supposition is held to account for the apparently unusual nature of stellar movements in the local star-cloud, which suggest that our galaxy is not rotating in one direction but in both directions. This phenomenon, however, may not be a fact but an appearance created by the conditions of observation.

When what we call an ordinary star has been formed it rotates on its axis, radiates its energy, wastes its mass, and increases in density. At least that is what we think it does. But before a star becomes a dense dark mass of cold matter it usually splits in two. That is because it rotates so fast that it cannot hold together. The two parts then exert a gravitational influence on and revolve round one another. It is possible for a star to split into more than two parts, but two are apparently the rule. It is impossible for rotational instability to produce a planetary system.

No man can say how our solar system was formed. Several theories are extant, but none is commonly accepted. There seem to be serious objections to all of them. The least difficulty, perhaps, is experienced by the tidal theory, according to which the matter forming the planets was dragged out of the sun by a more massive star that happened to approach it closely enough to have a gravitational influence on it and so raise tides on its surface. If this happened the accident must have occurred at a certain stage in the sun's career and at a certain but different stage in the other star's career. At any other stage in the career of either no planetary system would have resulted from the encounter.

The odds against such an encounter depend on the age of the

galactic system, on the number of stars it contains, on the density of its stellar population, and on the correctness of our ideas about stellar evolution. The first three are unknown, though attempts have been made to estimate them; the fourth is doubtful. So we cannot calculate the odds. But if, for the sake of obtaining some scientific answer, we assume that our ideas about these three things are even approximately true, and if our evolutionary theories are acceptable, we perceive that the odds against the occurrence are so colossal that there cannot well be more than one planetary system in the whole galaxy.

If the solar system was born in this manner we have to face the fact that among the inner planets the relation between diameter and density is such as to conflict with our ideas about stellar and planetary evolution.

Among the planets the earth is unique in two ways. First, its satellite, the moon, has so many unusual features that no man has ever put forward an acceptable suggestion how it got there. There are theories in plenty, but none fits the facts. Secondly, the earth alone has such an atmosphere, velocity, mass, temperature, and density as enables it to support mammalian life.

Of the mammals supported by the earth the human organism is unique in so far as in it alone the vague indefinable things called matter, life, and mind co-exist and blend. This organism also has a faculty called consciousness, which we do not understand. All our inductive knowledge about it comes from an observation of human behaviour. It is this faculty, combined with the powers of reason and creation, that enables the human organism to produce the events in the cultural process.

In trying to account for this data, it is possible to say that by chance material energy exists and creates spiral nebulae, perhaps unceasingly; that by chance these rotate and produce star-clouds; that by chance two or more nebulae coalesced and produced our galaxy (if it was so formed); that by chance the stars in the galaxy differ greatly in character and behaviour; that by chance most of those we call ordinary stars have had experiences we can understand and have become binary or multiple stars; that by chance one of these ordinary stars at a certain stage in its career approached another ordinary star, less massive than itself, at a certain stage of this star's career, raised tides on this one's surface, and disrupted it;

that by chance the disruption occurred in such a way that part of the smaller star came away in a cigar-shaped mass, which by chance split into planets; that by chance the inner planets assumed such a character as to deny our ideas about the relation between density and diameter; that by chance one of these planets, the earth, produced or was born with a satellite of incomprehensible character and behaviour; that by chance this earth had such a velocity, density, mass, and temperature as to become a habitat of life; that by chance it came to possess such an atmosphere as to enable it to support mammalian life; that by chance one kind of mammal had such a structure that it became self-conscious and by chance possessed the powers of reason and creation; that by chance this organism can therefore control the events on the material process and also other forms of life; and that by chance the events in the cultural process are being created by these same fortuitous epiphenomena.

I say this is a possible opinion to hold. True, if we hold it we must remember that we are leaving much unexplained; indeed, we can only hold it if we are prepared to overlook the many facts which appear to conflict with it; but there can be no doubt that in the present state of our knowledge the opinion is as good as any other. There can be no doubt, too, that it is tempting to hold it here now. We live in a time when our society is in a state of approaching social and economic dissolution; when politically our government is becoming a bureaucratic despotism of the kind that nineteenth century historians called Oriental; when less intelligent persons understand little except what appeals to their senses, and more intelligent ones seek some escape from the conditions under which they have to live; when men cry for peace, yet in spite of themselves are being brought nearer and nearer to war; when human activities seem futile and human hope ridiculous; when ignorance is preferred to experience; when enterprise is killed by fear; and when every man, woman, and child is being encouraged to develop a mediocre mind. We cannot be surprised if, seeking an escape from their everyday experience, our more intelligent citizens find some solace in contemplating the vastness of the material cosmos. Nor can we wonder if, as a result of their contemplation, they conclude that amid such phenomena the presence of men on earth is a trivial event of no more significance in the cosmic process than a microbe on a blade of grass.

Yet, leaving aside for one moment the social, political, and econo-

mic conditions that we have created for ourselves, I think that, if the material events I have summarized did actually happen, they may have happened not by chance but by design. Chance seems incredible; so does design; but I doubt if design is quite so incredible as chance.

Let us suppose that we possessed enough power and knowledge to create a form of life that possessed all the attributes of human beings. Let us further suppose that for some reason we decided to create it. We should have to produce a habitat with a certain kind of atmosphere and of a certain temperature and density. To exist, this habitat would have to receive a supply of energy from an outside source, which would have to be created first. To produce this source of energy, we should have to create a prior source, which would retain this immediate source in existence. For we must remember that the energy reaching the habitat would have to be emitted in such quantities and at such a rate that the organism could keep alive. That is why a further source would be needed in addition to the first source. Each source must have a certain strength and no more. To produce the further source, we should have to create a third source; then a fourth; and so on back to the ultimate source of energy. In a word, we should have to create, at appropriate points in the time-dimension, all the unique events which, so far as we know (which is little), must have occurred before the earth could support human beings.

It may be objected that design is improbable because no mind would expend so much energy if it merely wished to produce a little planet like the earth. There are millions and millions, if not an infinite number, of nebulae. Are they all useless except our own? And does that one exist merely for the sake of our undistinguished sun? Such waste and prodigality seems unreasonable; the very mention of it condemns the idea of design as ludicrous.

I can only say that such prodigality and waste is typical of Nature in all her work. Every year the humblest vegetable creates enough seeds to produce millions like itself. Insects lay enough eggs to make the whole earth teem with insects. Every oak drops thousands of acorns that never become oaks. Why is it unreasonable for Nature to be wasteful with stars when she is obviously wasteful in everything else she does? If the wanton wished to create a habitat for men we should *expect* her to scatter a few billion nebulae to achieve her

purpose. The fact that millions of nebulae have apparently been wasted not only accords with the idea of design but might even be held to suggest it.

No; the idea of design does not seem more incredible than the idea of chance. Moreover, if we adopt it we do not have to be dishonest with the evidence. At the same time I would stress the fact that from a study of the material process alone no decision can be reached. It is the cultural process emerging from the material process that must be studied. In the past the cultural process has always been viewed from the standpoint of the rationalist. The question of chance or design likewise has been debated from the point of view of the physicist, the biologist or the rationalist. May a social scientist contribute his piece of evidence?

The emergent results of the experiment appear to be such as to demand some kind of *confessio fidei*.

In making this I cannot emphasize too strongly that I speak no longer as a social scientist.

Our knowledge of the external world is necessarily small and possibly misleading. But, to ensure cosmic creation the hypothesis of a First Cause is an intellectual necessity. Let this First Cause be called God, conceived not as Him but as It. The little we know of the external world is such as to persuade us that God has a Purpose.

In the future two courses appear to be open to men. They can either do as they have done hitherto, that is submit to Necessity; or they can take charge of their cultural fate.

At the present time (1936) we white men of the Western world are faced by conditions of stagnation, hysteria, and despair. Our afflictions are great. In the past there have been, in various parts of the world, scenes of human suffering and distress, but if we consider, century by century, the events of the five thousand years that constitute known history, we fail to find a time when human prospects seemed less fair.

There is hunger in the midst of plenty, bankruptcy in the midst of wealth. There is an increase of suicides, paupers, and neurotics. Wage-slaves are chained to heavy toil more securely than any slaves or serfs. We have colossal riches and grinding poverty. The "poor" are under-nourished and live under domestic conditions so provocative that tempers are continually tried and nerves continually

frayed. They have no security; they are face to face with the eternal nightmare of rent. The continual selling and pawning of everything disposable leads to the gradual breaking up of their homes. The law courts being cumbersome and expensive, the "poor" are deprived of legal aid. Weary and over-burdened many dare not take a holiday even when it offers.

In Greater London a population reputed to be civilized and larger than that of Holland, Australia, or Belgium, lives in acre after acre of mean, dreary streets. Amidst chaos, squalor, and distress they are glad to take advantage of cinemas, wireless, and sensational newsprint in order to escape from the miseries created by the folly and greed of man.

Here now we have unemployment, high rents, slums, sprawling cities, lack of open spaces, the destruction of the countryside, land not reclaimed, shipyards idle. Power is in the hands of the few; there are parasites. Owing to economic superstitions trade is at a standstill.

Many, besides unemployed wage-earners, are being prevented from displaying their energy. Few men, indeed, are able to exert their full powers, and the most intelligent of them are beginning to lose faith in the meaning of life. If conditions were altered, purpose would re-enter the arena and organized society would cease to be an outrage. All human circumstances are man-made. We can alter them if we wish.

The manner in which everyone in England, indeed in any country of the white man, appears to rely on the State is significant. Reduced to hopelessness by our own folly and mental laziness, we have come to regard the State as a solution of all human difficulties. A tendency to increase the scope of "government" is encouraged by a lack of enterprise and purpose which is alarming. In every white society, from Congress or Parliament, laws pour forth in large quantities. In the U.S.A. laws come at the rate of twelve thousand a year. America remains the most degenerate of the white nations.

The power of thought has diminished. The Press dictates, suggests, insinuates. A collection of highly selected data masquerades as news, giving a false impression of events. There is little real mental activity though there is a great deal of talk. The mob fall a ready prey to the oratory of demagogues who, in their will to power, create dissension in order to secure their ends. Numbers, that is

quantitative criteria, rule everywhere; and since the rule by numbers always implies a rule by force, force is the weapon the governments use more and more. In international relations the rule of force is covered by words of idealism, but it is there.

Certain, if not all, vices are created by circumstance. If conditions are altered certain types of vicious behaviour become impossible. If we will we can take charge of our cultural fate. We must create those conditions whereby growth in the desired direction is possible; and we must ruthlessly remove those institutions that prevent such growth. Now the time has come for us to choose. Two generations hence it will be too late, for fate will have overtaken our power to recover. The domination of the middle-classes is coming to an end. Sunk deep in their servile degeneracy they do not use even the small amount of reason that their habits allow.

There is nothing new about what is happening now. It is happening on a larger scale and with greater intensity, but the symptoms are the same as they have always been in similar cultural ages. If we consider what the reformers said and did in Babylon, China, Athens, and Rome, and what has been said and done since in attempts to cope with similar situations, we shall find the prototypes of so-called "modern" ways.

The middle-classes dislike being told that they are merely saying, thinking, and doing what has been said, thought, and done many times before. But if there were no order in the cultural process, if anarchy reigned there, human destiny would be outside human control. If men were fortuitous organisms owing their existence to mere chance, and doomed to endure a meaningless life on earth, then what else should they do but indulge their senses, and seize and enjoy all they can get?

But the evidence is that there is no anarchy in the cultural process. Order reigns there. Human destiny is within human control. We can take charge of our future if we will.

APPENDICES

Notes on

I. DETERMINISM
II. CANON LAW
III. FOLLY NUMBER TWO: (HOW MONEY-POWER OPERATES)
IV. FOLLY NUMBER THREE: (JOINT-STOCK)
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APPENDIX I

Determinism

I EMPHASIZE that in social science the unit is the society, not the individual. This is most important.

When he wrote his first popular book on the discoveries made by contemporary physicists Eddington began by asking his readers to consider two tables. The first table was a sensible table, the one we are all familiar with. It made an impression on his senses; it had extension and colour; it was hard, cool, and substantial. Eddington called his second table his scientific table, by which he meant that its nature had only been revealed by scientific researches. For the most part this second table consisted of emptiness, or at any rate of what appeared to be emptiness. Sparsely scattered in this apparent emptiness were numerous electrical charges rushing about at tremendous speed.

Now supposing Eddington had never seen the first table but only the second one. Supposing that instead of first studying wholes, like tables, organisms, or chemical substances, scientists had studied a few electrons. What sort of ideas about the physical world would they have secured? Surely the movements of the electrons would have seemed so incalculable, and the forces controlling them so incomprehensible, that anarchy would have seemed to reign everywhere.

That is the way in which our fathers began to study human affairs. They began with the second table. Being rationalists they studied individual men and women. They said Man is this and Man is that, generalizing from an observation of a few like themselves. They even generalized in a still more hazy way and talked about the Human Race and Mankind, which are both meaningless abstractions. We cannot wonder if the study of human affairs was unproductive except for the expression of a few personal opinions which merely reflected the standards of the student and had no other value than an autobiographical one. We certainly cannot wonder if they failed to see that, whatever the truth about the behaviour of an individual, the behaviour of a society is determined.

Curiously enough, the study of the electron and other data that cannot be measured has recently upset some idealistic mathematicians, who have concluded that the behaviour of material events is not determined. Eddington has even declared that in his opinion "there is not a particle of

evidence in favour of determinism."[1] I consider that Eddington is not justified in applying to a mass of electrons, like a chemical substance, a conclusion drawn, and perhaps erroneously drawn, from a study of immeasurably small phenomena like single electrons. Moreover, does not he himself assume the truth of what I call determinism whenever he uses a spectroscope? The spectroscope, he maintains, tells him the quality of the light emitted by a nebula or star. This quality is either determined or not. If so, determinism must exist; if not, what is the value of spectroscopic observations? If the wave-length of the light emitted by a nebula or star is not determined, the spectroscope is merely a pleasing toy. Yet Eddington continually relies on it to increase what he calls his knowledge. I do not understand how a man can say that there is no determinism in the material world when he himself spends much time analysing and arguing about the meaning of phenomena which can have no meaning at all unless they are determined.

The difficulty may arise from a different meaning of the word "determinism." Like any other ism, determinism is a rationalistic doctrine, and therefore variously interpreted. Eddington says: "Determinism postulates not merely causes but *pre-existing* causes. Determinism means pre-determinism. In any argument about determinism the dating of the alleged causes is all-important."[2] But this kind of determinism is so out of date that I am surprised to find Eddington trying to argue against it. It is a relic of the materialistic mechanism popular in the last century; it has nothing to do with determinism as the inductive scientist, as distinct from the rationalist, has always understood it. At any rate every chemist now knows that the word "cause" is so unsatisfactory that it cannot be used. Myself I doubt if such a thing as a cause exists. If I put my hand into a hot fire I shall be burnt, but the responsibility for the burn does not altogether belong to the fire. The result is partly due to the nature of my hand. A piece of asbestos does not get burnt under those conditions. Besides, the result called getting burnt can be produced in my hand under other conditions than those of intense heat, for instance under hypnosis. To say that the fire is the cause of my getting burnt would therefore be nonsense. All we can say is that under conditions of heat the human hand behaves like that. But the human hand also behaves like that under other conditions, and under the same conditions other things behave differently.

Jeans is another mathematician who appears to regard determinism as synonymous with mechanism and argues against it quite convincingly. But he also seems to think that his arguments are valid against any kind of

[1] Quoted by Professor H. Levy in his *The Universe of Science*, p. 160. For other comments, see *My Sex and Culture*, p. 614.

[2] A. S. Eddington, *New Pathways in Science*, p. 76. (The italics are his.)

determinism, which they are not. However, he does admit that his evidence only applies to immeasurably minute phenomena. I myself do not believe that there is any indeterminism (in my sense of the word) anywhere in nature. Of the uniformity of nature, Jeans says, "Even though a certain measure of indeterminism may appear necessary to explain certain small-scale phenomena, the principle of the uniformity of nature still prevails so long as nature is only studied in appreciable amounts."[1] In a similar manner, a certain amount of indeterminism appears to be necessary to explain the behaviour of an individual human being, but that does not vitiate a deterministic conclusion in regard to the behaviour of a human society. And when I suggest that the behaviour of a human society is determined I do not refer to any kind of mechanical result; I merely mean that the society has no choice. Its inherent nature is such that under certain conditions it behaves in one way, under other conditions in another way, and under the same conditions in the same way. As I use the word, determinism means nothing more than that.

[1] J. H. Jeans, *The New Background of Science*, p. 230.

APPENDIX II

The Influence of Canon Law

It is possible that the introduction of mutual consent as an essential part of a valid marriage was due in some measure to the influence of the Christian priests; but the change did not take place among the Anglo-Saxons as quickly as it did among the Babylonians, for instance, and, so far as the legal relation between the sexes was concerned, we must be careful not to exaggerate the priestly influence in Anglo-Saxon times. In the seventh century the ecclesiastical machinery was different from what it is now and from what it was in medieval times. Clerks and monks served the episcopal churches; smaller churches were served by presbyters under an arch-presbyter or arch-priest. The rest were shrines erected on the sites of ancient temples by the liberality of kinglets, bishops, and other land-owners, or as their acts of penance. Clergy not bound to coenobitical orders married; the sacraments and penance were their chief concern. They had nothing to do with the celebration of marriage. By the eleventh century it seems to have become usual for a couple after celebrating their marriage, to go to church and receive the sacrament; but this was a voluntary act which did not add to, nor did its presence detract from, the validity of the marriage. Before the eleventh century neither the bridal Mass nor the priestly benediction seems to have been usual; but the evidence is obscure. In the actual wedding ceremony itself, perhaps, the priests had begun to usurp the function of the Saxon "orator," and in this capacity a priest was often present; but he did not perform the ceremony. Not till the Council of Trent (1545-63) was the benediction a necessary part of a valid marriage. True, the priests were concerned with post-nuptial conduct, but in regard to the indissolubility of a valid marriage and the remarriage after divorce, if any, Christian leaders spoke in diverse manners. The law of adultery in the eleventh century has a pagan rather than a Christian flavour, and we should not be wrong if we said that ecclesiastical influence was not exerted so much against divorce as against marriage. Widows, at any rate, were urged to take vows of perpetual widowhood and continence. They wore a ring and a russet gown; their property passed to the monastery. It was only after the Conqueror, in payment of his debt to Rome, consented to a separation of the ecclesiastical from lay tribunals that the Church took a firm hold of the marriage law.

Even then its claim to control the relations between the sexes was not immediately pressed. When it was made the canonists constructed an elaborate system in an attempt to introduce concord into a collection of discordant canons; and it is from that date that there entered into English ideas about the relations between the sexes the casuistry that is still its outstanding characteristic.

It is impossible not to sympathize with the canonists. They were up against tradition, revelation, and contemporary opinions. The early Roman Christians had adopted the later Roman usage: *Nuptias non concubinnatus sed consensus fecit* (Ulpian). But they could not admit that a union made by mutual consent could be broken in the same way. Could an unconsummated marriage be dissolved? If so, marriage was not indissoluble. If not, mutual consent was not the only criterion.

It is probably here that we see the reason for the distinction, drawn in the twelfth century, between *verba de praesenti* and *de futuro*. A declaration in the present tense by a couple to the effect that they took each other as husband and wife constituted a valid marriage; so did sexual intercourse if the pair had promised to take each other as husband and wife at some future date. Lanfranc may have condemned as sinful those who married without the priestly benediction; but the formless unblessed marriage remained a marriage. Moreover, a formal blessed union was upset if there was evidence that on a previous occasion one of the parties had uttered *verba de praesenti*. It is not the custom for sexually excited pairs to distinguish between "I will" and "I do"; yet the fate of a hallowed formal union might depend on the accuracy of their memory. If the words "I do" had been uttered, even though they had not been followed by any consummating act, they were sufficient to render invalid a marriage publicly performed, blessed by a priest, and hallowed by a bridal Mass.

The lay courts could not help; they had no doctrine of marriage. And matters were not helped by canonist ideas about incest. The prohibited degrees were variously interpreted and computed; prohibition varied from the fourth to the seventh degree, variously computed. Moreover, relations by affinity ranked as relations by blood. The canonists were only logical when they laid it down that sexual union made a man and woman one flesh; but they cannot be regarded as wise men. For their various decisions on these important matters meant that a marriage was invalid if one of the contracting parties was related within the seventh degree to a person who had exchanged *verba de praesenti* or had intercourse with a person related within the seventh degree to the other contracting party. We cannot wonder if the marriage bond was lightly regarded or if a person "having silver among the clerks to sende" was able to supply the Consistory Court with the evidence it required to upset his marriage. Nor can we doubt

the justice of what Pollock and Maitland have said: "reckless of mundane consequences the Church while she treated marriage as a formless contract multiplied impediments which made the formation of a valid marriage a matter of chance." [1]

The legal position of women in England between the eleventh and sixteenth centuries was the subject of similar casuistry. The law contains, as Pollock and Maitland say,[2] a perplexing variety of incongruous elements which "amazes and bewilders us"; but a guide to a part of the maze is available in the distinction drawn between married and unmarried women. We then see how absolute monogamy was re-introduced into our country.

In the eleventh century an adult woman could trade, contract, sue and be sued; she was a competent witness before the courts and could give evidence for or against her husband. As a widow she had a claim on his estate But the doctrine of "one flesh" gradually altered all that, and it also affected the position of unmarried women.

With a laudable logic the canonists declared that if a husband and wife are one flesh no husband can grant his wife anything; nor can he enter into any covenant with her, for no man can make a covenant with himself. At first this difficulty was overcome by his granting property to or contracting with a third person, who acted for the wife; but this pretty scheme was soon discovered to be inadequate; for if husband and wife are one they cannot have anything separate from one another. Their identity also means that they cannot be separately sued; nor can they give evidence against one another, except, the realists managed to say, in cases of treason and personal violence.

The result was that in course of time a married woman ceased to hold property or to have any claim on her husband's property. At first the woman's property merely became his also; and he could not dispose of it by will. On his death, if she survived him, it became hers again. But after a few generations had passed a married woman naturally ceased to have any property. Even her chattels, furniture, and odd monies became her husband's as soon as she married him. Debts due to her were his. She was also incapable, except as his agent, of contracting or doing anything that bound herself or him. She could bring no action to obtain redress of personal or other injuries except with his consent and in his name as well as her own. If he fled the country she could behave as if she were a single woman, sue and be sued. She could also do so if she traded in the city of London. In one or two odd cases she could act as an executrix; but the occasion for this became rare. Her personal ornaments and apparently her bedclothes

[1] F. Pollock and F. W. Maitland, *The History of English Law before the time of Edward I*, ii, p. 383.

[2] Ibid., ii, p. 383.

were the only property she could really call her own. Over anything else she could not exercise any authority.

All of us know that the smallest change in fundamental principle revolutionizes a social tradition as soon as it is applied to the details of human life; but it is impossible not to be staggered at the results that followed upon a literal interpretation of the doctrine that husband and wife are one flesh.

Another factor that helped to reintroduce absolute monogamy among us was the priestly resolve to put a literal interpretation on the words of Paul of Tarsus. As I pointed out in Chapter II Paul spent his early years in a Romano-Jewish environment; in each case the ideas he absorbed in regard to the relations between husband and wife were those of absolute monogamy. His mind was saturated with it. (Eph. v. 22; Col. ii. 18; etc.) He also uttered those fearful words: "It is better to marry than to burn." (1 Cor. vii. 9.) In the opinion of the Church marriage was a sacrament, but it was also a remedy for fornication.

Nowadays the Pauline tradition is so weak that we forget how literally our ancestors took all he said. An example is to be found in the Anglican marriage rite, which contains Roman and Saxon elements. The words uttered by the bride are Saxon. In the old pagan ceremony the bride promised that she would take the man as her husband "to have and to hold, from this day forward, for better or worse, for richer or poorer, in sickness or health . . ." These words were adopted without change. But the Saxon bride also promised to be "buxom and bonny in bed and at board." These companionable words, however, conflicted with the Pauline notion that marriage was a concession to the flesh; so they were omitted. In their place other words were inserted, to state more accurately the Pauline point of view, and for that reason the English Christian bride promises to "honour" and "obey" her newly-acquired master. It was not till 1928 that an attempt was made to delete the implication of female subjection; even then the liturgy was rejected, though it is often used.

Paul also said: "The wife hath not power over her body but her husband." (1 Cor. vii. 4.) This was interpreted to mean that no wife could withhold conjugal rights; and with that absolute monogamy was complete. The fact that Paul also said: "Also a man hath no power over his body but the wife," was forgotten in the atmosphere of male domination created by the "one flesh" theory.

APPENDIX III

Notes on Folly Number Two

HOW MONEY-POWER OPERATES

SINCE I have engaged myself to transform a closed society into Hopousia, I am prevented from discussing or even describing one of the most significant ways in which money-power operates; I mean the control of the relations between one society and another. The money-power interferes with, changes the nature of, and even dominates the inter-social relations. So long as we recognize the fact we should be in no danger of minimizing the effects of Folly Number Two. I now draw attention to the way in which money-power operates within a society. From a mere description of its results we soon discover what the folly is, and why it is so foolish.

I. *Like Feudal Barons:*

A feudal lord owned a certain tract of land. From each inhabitant he received either service or a supply of money called rent. He also held his manorial court in which he or his nominee punished any conduct that conflicted with his interests. He had his own retainers who lived on what the villeins or serfs produced. Each serf was tied to the land and the lord controlled the nature of his life.

To-day, the men who control money occupy a position similar to that of the feudal lord. They own the factory in which the employees work, the houses in which the employees live, the shops where the employees purchase odd commodities, and the land in the neighbourhood. They or their nominees sit on the bench in the police-courts, and they also control the police. This state of things has been most handsomely achieved in America, but it is rapidly appearing in England, and wherever you see a new factory surrounded by new houses, with a new sports ground near by, you are seeing the activities of money-power.

The only difference is that under the old feudal system the power of the lord was qualified in one important particular: he could not get rid of his serf. The serf was tied to the land but the land was also tied to the serf by an indissoluble bond. Under the modern money system the employee is less fortunate. Supposedly, he is not tied to his employer at all but, since thousands and thousands of men are unable to find employment, no em-

ployee is really free to leave his employer even if he wishes to do so. He must tolerate much in order to retain his employment. On the other hand, the employer can get rid of his employee whenever he likes. It is in this detail that, from the standpoint of the employee, money-power is more harsh than the old feudal power.

II. *The Press:*

In our society the Press is alleged to be free; but the only people who are really free are the men who control the money invested in the machines by which and the buildings in which the newspapers are produced. When newspapers first started they were produced by a man or a small group of men, who desired to express certain opinions. One man, one newspaper was the rule. But to-day the same man, or the same small group of men, controls hundreds of newspapers. These do not necessarily express the same opinions, though to gain political influence the owners may wish to use some of them for the expression of such opinions as suit this purpose. But on the whole the newspapers and journals are not so much personally as financially owned.

See also Chapter X, Section on Daily and Weekly Newspapers.

Folly Number Two is apparent under

(*a*) Limited Liability Companies (which it creates);
(*b*) Any form of loan capital;
(*c*) Title deeds of land and house.

APPENDIX IV

Notes on Folly Number Three

JOINT-STOCK

THE capitalist organization of the south of Europe, the *societas*, appeared earlier than English Joint Stock. The *societas* might be a partnership in which all the partners took an active interest; or a *commenda*, a sea-going enterprise on the basis of what we call a limited partnership. But the habit of gilds was too strong in England to allow the joint-stock plan to appear until much later, and then it was not a *societas*, but a creation of a gild or fellowship trading in distant parts. In England there were family partnerships, and occasionally large partnerships formed for special enterprises; but there is no trace of any such partnership in foreign trade, and the rules of the Merchant Adventurers insisted on a regular apprenticeship, like a gild. Each Adventurer traded on his own stock in the staple town, and in the special house, but in 1553 a number of men created "the mistery and company of the Merchant Adventurers for the discovery of regions, dominions, islands and places unknown," etc., in Russia; and the selected agents had to go to the White Sea and travel hundreds of miles inland; individual trading was then out of the question. 1551 saw the first joint-stock company formed. The number of shareholders was two hundred and forty, the shares £25 each; but the example was followed by several other Companies, and, half a century later, by the East India Company.

For the joint-stock enterprise in Russia, as afterwards for the East India Company, the capital was limited to each separate voyage and the profits were divided after each voyage. "It took some time to learn by troublesome experience that the business of each voyage could not be kept completely apart and separately accounted for; and that a permanent joint stock not periodically repaid, was the only convenient arrangement."[1]

And thus arose Folly Number Three.

[1] Ashley, *Economic Organisation of England*, p. 83.

APPENDIX V

Notes on Folly Number Four

Early English Feudal Land

"In England it was not until after the Norman Conquest that land became the dominant factor in the division of ranks, determining with the utmost precision the place which each man should hold in a nicely graduated social scale. The grants of bokland and laenland to gesiths and thegns were merely incidents in the consolidation of the royal power and the general organization of the community; they did not imply the growth of a feudal aristocracy." [1]

Effect of the Conquest

Before the Conquest no free man ever became a non-entity in the old English Commonwealth; he never, as he did later, "looked upon himself as one whose social value was merged in that of the lord to whom he owed suit and service." "The family tie was strong; blood revenge was superseded by compensation to the dead man's kindred; in all offences where the injured person was free, the system of compensation (*bot*) existed side by side with the payment of fines. The fact that he had a price (*wer*), however low, was enough to remind a man that his personality had some meaning for the society to which he belonged."

Guilds

"The numerous guilds tended to promote friendly relations amongst those who occupied the same neighbourhood. They were all social and religious; the so-called firth-guilds seem to have been compulsory associations, responsible in a corporate capacity for the good conduct of each member, and the trade guilds had not come into being."

Twelfth Century Land

Few freeholders. Yeoman freeholders only appeared after the breakdown of the manorial system.

The slave, who had composed 9 per cent of the population recorded in Domesday, had risen into the villein class which shared the manor produce with the lord.

[1] A. H. Mann (?).

Villein

"Shifty, fearful, ignorant, . . . trusting to charms, . . . cheating, and sometimes murdering the lord or his officers, incompetent and fatalistic . . ." [1]

He was permanently attached to the estate.

He could not strike or withdraw his services.

He had to work so many days a year and bring his own team to the plough; thus was the lord's farm worked.

The bailiff kept an eye on him.

When he died he had to give his best beast (perhaps his only cow) to the lord.

But:

He held lands of his own, which he tilled when his lord had no claim on him.

He had a share in the use and profit of village meadow and woodlands and common.

He was supported by public opinion in manorial court.

He was fairly secure in his occupation of land (compared with modern days).

He could not have his rent raised.

The murder of Becket encouraged clergy and created many of the clerical benefits that Maitland calls "one of the worst evils of the later Middle Ages." [2]

Thirteenth Century Land

When Statute Law began to be made in the reign of Edward I, the first attention was paid to land.

Quia Emptores was passed to preserve "the full value of feudal dues by preventing subinfeudation." In future when tenants-in-chief wished to dispose of their lands, purchasers had to become tenants-in-chief like themselves. This caused a great multiplication of persons holding land direct from the King, and a consequent levelling of classes and a further disintegration of the feudal spirit. In Scotland subinfeudation was allowed; thus Scotland remained more feudal than England.

Quia Emptores allowed land to be freely sold, though the purchaser was not the vassal of the vendor, but of the man of whom the vendor had been the vassal.

[1] Trevelyan, *History of England*, pp. 147–48.
[2] Ibid., p. 156.

The Peasants' revolt for freedom came in 1381.

They wanted to pay 4d. per acre for land instead of servile dues; to be free labourers.

The old village economy with strips of land survived in many places until George III.

LAND TENURE

Game Laws and Forest Laws

The forests, once the ground from which food was obtainable, were protected by the Conqueror, who claimed them for himself. Trevelyan, page 127, says: "The alienage of so large an acreage of land from national uses and national liberties remained for hundreds of years a source of constant bickering between the King and his subjects. . . . When in Stuart times the King's power passed to the squirearchy, the modern 'game laws' grew up like 'a bastard slip,' as old Blackstone called them, of the dying forest laws of the King, less ferocious indeed but equally opposed to the freer spirit of the English law of the day."

And now we have shoots; keepers and poachers;—all the product of middle-class domination. The middle-classes, having succeeded to the rule of the nation, protect themselves and keep out other men from enjoying the delights of the countryside; and then expect gratitude from those who serve them and take kindly, finger to cap, to a present of a hare.

According to William the Conqueror a man who killed a hart or a hind was to be blinded. Now the middle-classes fine or imprison a man who kills a hare.

Among the Saxons, hunting was the duty of the thegns. Among the Normans it was the pastime of idle knights.

"As game and waste land became more scarce the knight struggled with the King above and with the peasantry below to preserve enough for his own diversion."[1]

The feudal lord is now the State.

The feudal lords were, like modern states, perpetually in conflict. Trevelyan, p. 107, says: "It is a mistake to suppose that the medieval world was safe and peaceful because its inhabitants were theoretically conscious of the unity of Christendom." The land was "in a state of constant internal war between the petty feudal powers," and these wars were conducted "with the utmost ferocity" and "for purely personal motives."

[1] Trevelyan, *History of England*, p. 146.

"In the feudal world the hand of neighbour was perpetually raised against neighbour, and death, injustice, and outrage were the daily lot." [1]

It is the same now. Nations act for personal reasons, and instead of owing allegiance to a lord, they owe it to their State.

Primogeniture began in the twelfth century.

In Saxon times an estate had normally been divided among the sons. In Plantagenet times it normally went to the eldest son alone.

Thus the youngest sons, after being brought up as children of the manor house, were sent out into the world to seek their fortunes.

And this idea still remains among us.

England, from being a purely agricultural country supplying itself with food, became primarily a manufacturing country, depending on its importations for its sustenance.

Which is better? It must be worked out by reason, not by assuming that the one condition is better than the other.

The change took place in less than two centuries. It seems reasonable to suppose that a similar or even a greater change could take place in another two centuries. These changes are part of the cultural process, for they depend on and reflect the energy of the people.

The development of land tenure and therefore the present position in England is unique in Western Europe. The same experiment could be performed in any society, but methods would differ according to structure of society, for instance those of Germany and France.

Large owners of land are being ousted; and see what happens when small ones begin to own it. The number of owners of agricultural land is not great, but small owners now settle in the country.

"England, though it plumes itself on the absence of a noble caste, may be not inaptly described as more feudal to-day than France or Germany." [2]

This applies to taxation as well as land tenure.

The Origin of Shires and Boroughs

Our boroughs are not survivals of Roman *municipia* but developments from the fortified mound or ditch erected by the Danes and Saxons. Lincoln, Stamford, Leicester, Derby, and Nottingham are the five famous Danish boroughs. In Wessex there are those put up by Alfred in his defence against the Danes. Others were the result of Mercia's success in wresting from the Danes certain areas that had been subject to the Danelaw. Each borough had its own army and ruler, the Jail or Earl who, from his mound,

[1] Trevelyan, *History of England*, p. 107.

[2] Ashley, *Economic Organisation of England*, p. 7.

ruled the wide surrounding district; and when the Danelaw was conquered many of these surrounding districts became shires. This is the way in which the shires of the midlands were delineated. The shires of the south and south-west seem to have had a more peaceful origin. In the shires of Wessex and some of Mercia there was a Shire-reeve and an Alderman. For each shire of the annexed Danelaw there was an Earl who answered to the King.

Cities

Cities and boroughs were built on land belonging to some Earl or Prelate, or to the King. They were governed by the owner of the land. Towards the end of the twelfth century when English energy began to increase, boroughs began to obtain by bribery or purchase their freedom to govern themselves through their own elected representatives; but the land on which the city or borough stood remained the property of the Earl, Prelate, or King. To him rent had to be paid.

Folly Number Four was largely responsible for the so-called "boor in the U.S.A. in 1929.[1]

The bad state of houses is due to this Folly and Folly Number One together with the system of land tenure. It allows the sale of the countryside and controls the shape of our cities.

Owing to our systems of economics and land tenure, we are used to fabulous riches and direst poverty.

[1] See G. D. H. Cole, *Intelligent Man's Guide through World Chaos*, p. 78.

APPENDIX VI

Notes on Hopousian Political Structure

HOPOUSIA is a State only in so far as it is an organized political commonwealth, occupying a certain territory, but in Hopousia there is no line of demarcation between the government and the governed. Everyone governs and in his turn is governed. The rights of the individual are paramount. The State in the sense of an abstract idea of government does not exist. It is a superstition, a relic of the past for which we have an irrational and misdirected reverence. The State exists in the sense that there is an authority that enforces the maintenance of rights; but this "State" is the community, each corporation and profession playing its own separate and definite part.

Shires

Hopousia is divided into fifty-two Shires. The Shire is the unit of internal administration. At its head is the Shire Reeve whose relation to the shire is that of the King to the nation.

The Shire Officers are as follows:

Shire Reeve, Representative of the King, nominal head and leader of local Councils.
Shire Chancellor.
Shire Engineer and Surveyor.
Shire Architect.
Shire Medical Officer.
Shire Lawyer.
Shire Land Controller.
Shire Constable.

If any citizen is dissatisfied with anything, for instance roads, he complains. The Shire Reeve is compelled to receive within fourteen days of the application any deputation representing one hundred Alpha citizens.

Any official complained of by the citizens and found neglectful, is dismissed.

The J.P.s are elected triennially by public vote. A knowledge of law is an essential part of their equipment. An impressive ceremony accom-

panies a man's elevation. He remains simple but he carries his office with dignity, knows men, is merciful and honest and is a bulwark of the constitution.

In the past J.P.s have had an inevitable class bias. Election banishes this bias. Until the end of the seventeenth century the Council controlled them. It was only then, as Ashley[1] says, that "the defects (i.e. class bias) of English administrative machinery began to outweigh its merits."

In Boroughs, the Mayor is appointed by the Shire Reeve. He acts as the representative both of the Shire Reeve and of the Shire Chancellor.

Ministers

The affairs of the nation are controlled by Parliament which appoints Prime Minister, Treasurer, Foreign Secretary, Home Secretary, and Minister of Defence. These five men constitute the Administration, but the Prime Minister alone possesses executive power. The other four possess only such power as he delegates to them. They act also as his advisers.

Next to the Prime Minister, the Treasurer is the most important officer. He has three important assistants: the Controller-General who is responsible for the National Dividend; the Auditor-General who audits the accounts of all public companies; the Land Surveyor who controls the use of land and buildings.

The Treasurer is responsible for the payment of Army, Navy, Medical Officers, Lawyers, Accountants, Engineers, Architects, and Surveyors.

The whole object of Hopousian organization is to free the individual from the irritation of rule; to change laws to a means of redressing injuries; to decentralize and to prevent bureaucracy.

Parliament

Parliament is divided into the Lower House and the Upper House.
The Lower House is made up of Trades, Professions, and Gilds.
In the Upper House are:

The Shire Reeves.
The Borough Reeves or Mayors.
Ex Colonial Governors.
Ex Prime Ministers.
Ex Controllers.
Ex Foreign Secretaries.
One Representative per Colony.
The Council of the Professions.
The Council of Trades.

[1] *Economic Organisation of England*, p. 98.

Representatives of the Universities.
Army, Navy, and Air Force Representatives.

(The President is the Head of the Legal Professions.)

There are no general elections. Parliament is a permanent entity meeting once a year to receive a report concerning the state of affairs during the past year, to consider any particular subject any member may care to raise, and to take such steps as will increase the security, joy, and prosperity of men.

Election of the Prime Minister

When the Prime Minister has served for seven years the Queen presides over a meeting of ex Prime Ministers, Heads of Professions and Presidents of Trades, each of whom sends her a slip containing the name of the man he recommends as the next Prime Minister.

She then appoints the one who she thinks fit.

His first duty is to obtain a vote of confidence in the Lower House. If he is not satisfied, he resigns. If the vote is satisfactory a similar vote takes place in the Upper House.

The King

The King is the spokesman of the community, and the head of the community.

He is succeeded by his daughter's son. If the King dies before his grandson is thirty years old, his daughter acts as Regent until her son has reached that age. The King's sons are commoners and may marry whom they like. The marriage of the King's daughters and of their sons is controlled by Parliament.

Everything is done in the name of the King, but the King has no executive power. He is trained to be a dignified, learned, and experienced head of the community, knowing everybody, meeting everybody, and adjusting personal difficulties among the personnel of his executive.

The head of every profession is known as the King's Servant. Thus the head of the medical profession is the King's Physician; the head of the accountancy profession is the King's Accountant. These titles are honorary and do not involve any duty. The physician who attends the King is not necessarily the head of the medical profession.

The public appearances of the King are occasions of great magnificence and interest. The King wears his own special uniform. His Physician, Architect, Accountant, Lawyer, Engineer, etc., have their own special uniforms for as long as they remain at the head of their professions.

Each profession possesses its own organization which advances its interests and knowledge, and acts as a link between members.

Except on ceremonial occasions the King leads a private life in a small house attached to the official palace. This palace is reserved for ceremonies. The only ceremony which does not take place there is that of honouring citizens whom the community regards as worthy of honour. There is a special public building for this ceremony which is impressive and dignified. It takes place once a year, and on that day a holiday is given throughout the land.

The King does not have to carry out all those charitable duties which fall to the lot of our King. In Hopousia charity is not regarded as a virtue.

The Queen

The Queen is the mother of her people. She cares for them, knows them and lives their life. She does not surround herself with courtiers. She has her Prime Minister, and her advisers; but she herself has her representative in every borough and every shire. This body is called *the Queen's Complaint*.

It consists of retired men and older married women and widows. The members travel and observe. They have no executive power; they merely have the entrée into all circles. They do not report to the Queen. They report once a year to the Shire Reeve, who delivers the report to the Queen, who, in her turn, hands it on to the Prime Minister. Parliament then discusses it. Hence the name.

Any citizen can approach this body freely.

The Queen speaks in public only as the advisers or ministers desire. She herself appoints them, but as they can do nothing except by consent of Parliament, she can only appoint those whose authority is derived from the community. The Queen protects the private citizen from any injustice of her executive.

APPENDIX VII

Notes on Hopousian Economic Structure

Usury

We have seen how the Hopousian system of commodity-exchange works. Trusty men do not need to borrow money. Money was invented for the convenience of men and is due to be paid to the producer of a utility when he has found a customer ready to give in exchange for it another utility for the same exchange-value. This act of exchange promotes both utilities to the status of commodities. But in Hopousia the customer is not always asked to pay at once the money expressing the value of the commodity he wants. If he is judged to be trusty he is given credit for it. When a cheque currency is used there is an inexhaustible supply of money; and in Hopousia it is issued to producers when appropriate need arises. Producers receive the full money value of their productions when they have delivered them to customers judged to be trusty; these are given credit for the money, the money being specially issued in each case. Whether the commodities are productive or unproductive, the same procedure is followed. The goods are supplied on credit and paid for gradually. As soon as they are consumed, that is, at the expiration of their estimated "life" (which is designedly made to correspond with the period over which the payments extend), they are discarded and others are purchased on the same terms. In this way the wheels of industry are kept oiled, production is maintained; there is no use of worn-out commodities; no usury. No charge is made for the use of the issued money; every producer and purchaser is regarded as conferring a benefit on the community by his display of human energy. Besides, the issue of the money costs nothing. All that the contracting parties have to pay is a sum to the Gild of Bankers who keep their accounts and clear their cheques. But there is nothing exceptional in that; for every other person is treated in the same way, whether he enjoys the use of issued money or not. Incidentally, we pay for such services under our economic system.

I emphasize that money is only issued to trusty men. Men who are not judged by their fellow-citizens to be trusty do not receive any credit in Hopousia. I have already explained why this is so; but I mention it again because in Hopousia money-lending exists, and it may be said that I am

splitting hairs when I say that usury is not part of the economic structure. Let us then be clear about it. There is no objection in Hopousia to any man or group of men lending money to an untrustworthy citizen. The lenders may charge a fee for the accommodation. For the protection of fools, however, there exists a money-lending law, as there is among us, which limits the amount of profits that money-lenders may make in any single transaction. The money-lender himself is not protected in any way. When he makes a loan he knows well that he is dealing with an untrustworthy or incompetent man; for if the man were trustworthy he would easily obtain credit from the Gild of Bankers. Money lent by a money-lender, therefore, is not recoverable by any legal process.

It may be said that the fee charged by the money-lender is usury and that usury therefore exists in Hopousia. My reply is that such borrowing is not part of the economic structure of the society. Industry, trade, and government are not financed in that way. Money-lending of the kind I have described only exists because an alteration in economic structure does not cancel the existence of crooked fools. According to our economic system no man or group of men can borrow money unless they pay for the use of it; according to the Hopousian system no man or group of men pays for the use of money unless his fellow-citizens are convinced he cannot be trusted with money. Among us usury is compulsory and must be paid; in Hopousia it is never paid by any person or persons that can be trusted. Among us the law protects the usurer; usury is the first charge on industry, trade, and taxes. In Hopousia usury is not a recognized charge at all; but neither in Hopousia nor anywhere else can crooked fools be prevented from coming into existence. So in Hopousia such men are permitted to borrow money, if they can, from their fellow-citizens, and, if they wish, to pay usury. Such monies, however, not being recoverable by any legal process, the only redress a money-lender has against an absconding client is the exertion of social pressure. Even then he has to be careful not to use blackmail.

To receive credit, of course, a man must do more than prove himself trusty. He must also convince the Gild of Bankers, who in such cases are advised by the Gild of Accountants, that he can repay the agreed amount of money at the agreed times. But that aspect of the matter has already been discussed and does not come within the scope of this note.

It should be noted here that a state of affairs which the Christians called "just" when Christendom existed exists in Hopousia.

Producers and Distributors

We must imagine a society consisting of a varying number of economic groups. Some of these groups produce commodities, others perform economic services.

When commodities are exchanged parties to every transaction are the producers and consumers, but an energetic society also has to have a number of distributors, who carry the commodities from producer to consumer; and we must first define the difference between a producer and a distributor in such a way that each can be recognized easily and immediately.

In most cases recognition is easy. The group of men that run a railway are plainly distributors; they produce no commodities. The same applies to transport contractors of any kind. Dockers who load and unload ships, the crew of a ship, shopkeepers, and booksellers, these are distributors, for they merely perform a service. On the other hand, the men who make ships and produce the articles sold in a shop, are producers. And the matter is simple till we consider a man like a cleaner or dyer, or a man who makes material into curtains, or an upholsterer, or a decorator. Are these producers or distributors? According to my terminology they are distributors.

There are two kinds of producers: those who obtain from the earth raw material out of which commodities are made, and those that change the form of that raw material. A distributor is a man who hands on a commodity in an unchanged form.

The first kind of producer is easily recognized. The breeder of livestock, the grower of natural produce, the miner and the forester are the most important. But the second kind of producer is not easily recognized, for he is only distinguishable from a distributor by the meaning attached to "form."

Form is not a change in appearance. A change of colour is not a change of form. Thus no dyer or decorator is a producer, he merely performs a service, and I include him among the distributors. A change in position is not a change of form. Thus the man who carries bricks from the brickyard to the building site is not a producer. But the man who makes the clay into bricks is a producer; so is the man who makes the bricks into a house, for as the result of their efforts a new form has emerged.

A pair of shoes is "production," but a new pair of soles on the shoes is "distribution." On the other hand, the man who provides the hides for the leather out of which the soles are made and the man who makes the leather out of the hides are both producers.

These definitions are not really complicated; and indeed they seem to be the only possible ones to adopt. If we bear the distinctions in mind, the Hopousian method of commodity-exchange is simple enough.

Distribution

Suppose that a bootseller wants to stock boots. He orders them and receives the goods. When he has examined them he goes to the Bank and

signs the necessary authorization for the credit to the bootmaker. This order states that he possesses the boots and is responsible for them. The manufacturer having produced commodities receives his money; the retailer is debited with a corresponding amount in the bank ledger; the auditor is informed of the transaction so that he can check the reference books. As the retailer sells the boots he enters the rate in his ledger, banks the money, and repays the debit in his books. The bank-manager and the auditor watch him and report, working separately or in collaboration. The retailer pays a fee annually to the auditor, but pays nothing to the bank except so much for every page in the ledger. This is debited quarterly and a chit note sent to him.

A bootmaker can ask a retailer to try a new line. In this case the article is not a commodity, for it has no exchange value. As soon as it is sold it is a commodity; and the money is paid for it net.

Thus a boot retailer needs no capital at all, except for the wages of his staff. If he buys the wrong stuff he loses. The prices are fixed by the makers and he gets a percentage.

Hopousian Banking

Imagine a number of offices where a record is kept of the spare energy unexpended by every citizen. The thousands of offices are divided into classes for the sake of convenience. Thus some branches deal only with farming, others with retail tradesmen, others with salaried servants. This enables the managers of these branches to get to know the problems and lives of each type of citizen. On the other hand, in small towns offices deal with everybody. These offices constitute the banking department of the Controller.

The old word "bank" is preserved, but banking in Hopousia is very different from the system that we understand by the name. Every man is charged so much per folio page used by him in a ledger. This, of course, accords with our practice, but whereas among us the money paid goes into the hands of the bank shareholders, in Hopousia the banking department uses it solely for expenses. They do not charge or pay interest except when a Controller enterprise needs variable capital. Then they are granted 2½ per cent for the use of it, whatever the period over which it is used. This variable capital only applies to building operations, bridges, drainage, etc. As soon as the operation is over the variable capital is repaid. The variable capital required for the actual running of an enterprise is granted, not borrowed.

Companies

On Boards of Companies there are:

A Trade Member appointed by the Controller-General.
A Finance Member appointed by the Auditor-General.
A Manager—Director and Chairman.
A Production Member.
A Sales Member.
A Conditions Member.

There is no Company of less than six persons.
No Company holds shares in any other Company.

Of the shares of the Limited Liability Companies not taken over on the death of the owner: half go to the Controller-General and are kept intact, and half go to the wife and then to the family, or in the case of a widower direct to the family in equal shares. On their death half goes to the Controller-General and half to their family, but as soon as the Controller-General controls any Company he has the power to exchange Controller bonds for other shares.

Any Company can be liquidated at any time provided that no more than six persons are partners and that all are engaged in the firm.

Private Businesses

A private citizen can initiate any business, trade, or manufacture, provided that he trades with his own spare money or energy. He is allowed no overdraft, nor can he borrow money. He can take a partner or any number of partners up to six. If he wishes to borrow money his business must become a Company and he must submit to the law controlling Companies.

If he produces goods he must join the particular trade organization. This cannot refuse to admit him, and on his part he must keep the rules of the trade. If there is no organization for his particular trade, he registers with the Non-Trade Factory Act which controls the terms and hours of employment.

His buildings are examined and cared for by the building trade.

If there are partners they must all work. People can share in the profits but only as a gift from the partners, never as a right, except widows.

When a man dies, his wife is usually given half his share; the other half goes to the son or son-in-law. But the latter must be working in the business. If a business has more than six partners it is valued as to stock and machinery but not goodwill. The amount is exchanged for Controller

5 per cent bonds. Directors are nominated by the Controller and the business carries on as before with no change of personnel.

Private businesses give 2½ per cent of their income for the National Dividend.

Insurance

All insurances are paid to one place. The balances are lent for variable capital and are controlled by the Controller-General. Profits go to the National Dividend Reserve and are also lent.

All fire stations are paid for and kept up by the Insurance Office in each shire or borough. There are agents everywhere; these are salaried and get a percentage.

Ten per cent is added to premiums for expenses. Accounts are strictly audited. Machines are used so far as possible to reduce the dull labour of clerks.

Since the Insurance profits form the National Dividend Reserve and are not distributed to the staff (which is always reduced to a minimum), no increase in the premiums can be made without the consent of Parliament.

In our case insurance is based on usury, so premiums are higher in Hopousia than among us. With us the ratepayers keep up the fire-engines, thus increasing the profits of the insurance companies.

Trades

Every man contributes a penny in the pound earned weekly. This is deducted from his pay and sent to the trade organization.

Every trade has hand-workers as well as machine-tenders.

If raw material is imported, stores are handed from the Import-Controller to the trade representative, who issues them to departments, factories and hand-workers at prices regulated by the Import-Controller. The hand-workers have a shire store; factories have their own store.

Each trade, though controlled by Parliament, runs its own show. There is no such thing as employer and employed; and there is no conflict between classes.

Hopousian Trade Gilds

Just as in the fifteenth century the growing gilds drew up their own rules and then presented them to the Mayor and Aldermen for confirmation and enrolment in their registers, so in Hopousia each gild makes its own rules and presents them to Parliament for confirmation and enrolment in the statute law of the realm. Thus every man knows where he is; his rights and duties are commonly understood. No change is permissible or

legal unless confirmed by Parliament. Nor can Parliament change the rules except by special warning and vote.

Membership of these gilds is compulsory. It gives certain rights as well as imposing certain duties. Such a monopoly would probably be much abused in England at the present day. Ashley, in the *Economic Organisation of England*, says: "the character of such a monopoly depends on the ease or difficulty with which competent persons can secure admission" (page 37).

In Hopousia gilds must admit people.

Professions

The whole point of Hopousian organization is to allow each profession to take charge of itself. Professional services are commodities, and no profession is permitted to hold the community up to ransom. The amount of money available depends on the amount made available to the Treasurer by the Controller-General. Thus it is in direct proportion to the National Dividend.

The National Dividend

This receives definite sums from some trades, insurance, etc. Others pay a percentage of 2½ per cent on all products sold. All invoices are audited.

The more things are bought and produced, the richer everyone becomes; that is to say, the greater his purchasing power. Before long the National Dividend paid over to the Treasurer will be so great that he will be able to increase salaries of professions, the allotments to research and universities, etc. This is natural for the more a society produces the greater are its cultural attainments.

Man does nothing to make money. Why should he? No interest is required except for the National Dividend. Private usury will probably exist but only covertly.

The Controller-General

The Controller-General is not in the Government but he is responsible to the Government. He is specially trained.

He handles the National Dividend, controls trades and imports and exports.

The Trades department pays for itself by trade organization fees.

The Imports and Exports departments pay for themselves by a percentage on all goods handled.

The Banking department pays for itself by interest on advances of variable capital.

Insurance pays for itself by a percentage of receipts on premiums.

In Transport, the Controller-General appoints Manager of Railways, Airlines, etc.

The Treasurer

The Treasurer receives the National Dividend and controls the professions.

Out of the National Dividend he pays:

Teachers
Lawyers
Doctors
Civil Servants.

Auditors

The Auditors' profession is controlled by the Auditor-General, who is the head of the Auditors' profession. The members are salaried men paid for by Companies. They are helpful and not merely inspectors.

The Auditor-General

This department is divided into two: (*a*) administration;
(*b*) audit.

It is paid for by directors' fees and audit fees. The Auditor-General is a finance expert.

The Shire Accountant

The Shire Accountant has nothing to do with the Shire Reeve. He is responsible to the Auditor-General. He or his representative sits on the board of those Companies in his shire in which the Controller-General, in the name of the community, possesses shares. He is not allowed to express any opinion on production, neither may he introduce any policy. He has no vote. He is concerned merely with the accuracy of the accounts of the Companies.

A representative of the Shire Auditor may sit on the board of many Companies. He is not allowed to divulge their trade secrets.

In the industrial shires there are many auditors on the staff; in other shires very few.

No auditor may interfere with a private trader.

The Shire Engineer and Surveyor

The Shire Engineer is in charge of bridges, roads, and buildings. He corresponds to the Engineer and Surveyor of our local councils.

He works in conjunction with the Shire Architects.

The Shire Architect

Architecture being an art as well as a science, no building in Hopousia is allowed to be erected in the haphazard manner in which we allow it. Hopousians do not suffer the face of their country-side to be scarred by chimneys and factories, bungalows, and villas. Each county having its peculiar character, the architects plan the buildings accordingly.

There are many architects in each shire, but none works in a private capacity. They receive 2½ per cent of the cost of the building.

Under the Borough Reeve work the Borough Architect and the Borough Builder. The shire passes plans for rebuilding. Each building is painted inside to last five years, outside to last three years. Orders are carried out by the Borough Builder, who has two departments: (1) for redecoration and repairing; (2) for new buildings.

Farmers

A Farmer needs capital only for his wages. His buildings are looked after by the builder. His machinery is purchased by a grant of money according to the fourth method of commodity exchange.

Wheat is sold to the millers at fixed prices.
Flour is sold to the bakers at fixed prices.
The millers' trade is organized by the shires.

Towns

Anything a shire or borough receives it pays for out of its rates. The Shire Reeve adds or detracts to or from these according to convenience. In Hopousia bridges and roads, etc., are continually being remade, and the lighting, water, and drainage systems improved.

In our towns for any big enterprise the local authorities issue a loan on which bankers and brokers take a commission.

In Hopousia the Controller authorizes the cost, supplies the variable capital, orders the commodities which make the constant capital, and then the shire pays back so much every year.

Houses

Here we do the least we can. The Hopousians, being full of energy, do the most they can.

Plasterers', plumbers', and bricklayers' professions are divided into two

departments: (1) for new buildings; (2) for the repair of old buildings. The members of these professions all receive a permanent salary.

All building materials, etc., are handled by the Controller.

Collection of Rents

Here there is a lack of sympathy in absent landlords. In Hopousia women do the rent-collecting. They take more trouble than men over the details and recognize more quickly when there should be exceptions to the general rule. A rule in regard to human beings is a guide, not a command. The bureaucrat interprets literally.

Buildings

In Hopousia the exchange of buildings for rateable value is justifiable for:

(1) The owner-occupier receives as interest the rent he pays.

(2) No property or income tax is payable.

(3) All owners not occupying the house had lived by exploitation of other citizens, getting the highest possible rent and doing the least they could for their tenants. Money spent on excess rent puts purchasing power into the hands of capital owners not into those of persons displaying energy.

Rent for Land and Buildings

To the rent for land a percentage is added for the expenses of the partment.

To the rent for buildings a percentage is added for (*a*) repairs; (*b*) interior decoration.

Valuation

Land and buildings are separately valued.

Buildings:

(1) If habitable, a percentage is deducted to put in good order.

(2) Value is affected by age. Ten per cent is deducted for each twenty years, except in the case of buildings of an asethetic or historical value. If the value goes up it is the site which has increased in value, not the building.

(3) A building condemned as unfit for human habitation has no value. The land it stands on still keeps its value.

With us, bad houses, condemned by the sanitary authorities, are kept up because of our wrong idea of money.

Theatres and Places of Entertainment

Theatres and places of entertainment are let to individuals. A quarter's rent is paid in advance, thirty days previous to quarter day, the tenancy being terminable at any time during the quarter. No man may sublet at any time.

The Land-Controller is responsible for the upkeep, wear and tear and redecoration of all places of entertainment. There is no entertainment tax, of course. The Entertainments Clerk keeps a permanent staff in each theatre, caretakers, etc. The tenant brings his own people as ushers. Usually a man attaches himself permanently to a theatre as its booking-office clerk, but if a tenant of the theatre objects to him he must go.

A tenant enjoys security of tenure provided that he pays his rent and keeps the law. No one can turn him out; he ends his tenancy by voluntary retirement.

If, in the opinion of the inhabitants, there are too many places of entertainment, the number is reduced; if too few, more are built.

Hotels and Inns

No man can occupy more than one hotel or inn. Of this he possesses full security, and he is not bound to order his supplies from one particular house. He is a private citizen, holding his property from the Land-Controller, and so long as he pays his rent he remains.

The citizens of any town, village, or borough decide whether or not the number of inns is excessive or inadequate. If there are too many their number is reduced; if there are too few, more are built.

The innkeepers have a national organization which decides the hours during which inns shall remain open to the public. If any inn breaks the rule, which has the force of law, he is warned, and for a second offence he is deprived of his tenancy. Any citizen can bring an action against an innkeeper for this offence. The hours are publicly announced.

The opportunity to obtain money without displaying any energy cannot be afforded in Hopousia. It is not a question of an idle life being morally reprehensible; it is a question of plain fact that, in a society created for the purpose of displaying social energy, no man can be allowed to be idle.

We allow a man to have purchasing-power because his ancestors produced many commodities or dominated a large tract of land. We also find it necessary to give purchasing-power to many persons who would otherwise starve. In both cases the direct relation between production and purchasing-power is broken.

APPENDIX VIII

Notes on Hopousian Social Structure

Shires

In our country we centralize everything. Hopousians decentralize.

We possess a large bureaucracy in our capital cities; people flock there to live. Our theatres and concerts are held there, and in rich boroughs.

In Hopousia people live in shires. The leading citizens go to the capital when Parliament meets; but even then they do not possess houses there, they stay at the hotels. Theatres exist in the capitals, but the shire theatres are as good. The companies exchange visits, going from shire to shire.

The Shire Physician

The Shire Medical Officer is responsible to the Shire Reeve. He receivēs his salary from and is appointed by the Medical Council, to which the Treasurer allots the necessary of money annually. The Shire Medical Officer is responsible for the hygiene, convalescent homes, hospitals, and general practitioners of his shire. If the Shire Reeve is not satisfied with the Medical Officer, the Shire Chancellor complains to the Medical Council, who takes the necessary steps to put things right. Each Shire Medical Officer holds an annual conference of physicians and surgeons. The King's Physician assembles an annual conference of Shire Medical Officers. These public conferences have nothing to do with the Medical Council which is purely a private professional organization.

The Shire Lawyer

The legal profession is organized in exactly the same way as the medical profession. The Treasurer allots money to the Inn, which distributes it to the shires. The Shire Lawyer is responsible to the Shire Reeve. There is an annual Shire Conference and an annual National Conference, assembled by the King's Lawyer. These conferences are public. Matters of purely professional interest are discussed privately at meetings assembled by the Inns.

Lawyers are attached to each Court. Their services are free, being paid for by the producers by deductions from the National Dividend. There is no conveyancing in Hopousia, no mortgaging, no leasehold, freehold, or

copyhold. Moreover, man possesses the power of testamentary disposition only within narrow limits. So the work of the lawyers is by no means so great or so parasitic as that of our lawyers. They have no Rent Restriction Acts, no Insurance Acts, no Unemployment; thus their work is little. They are divided into two classes, common lawyers and technical lawyers. The former plead in the Shire Courts, the latter in the High Courts. The former give advice, the latter give counsel. The former deal direct with a client, the latter deal with the shire lawyers.

Priests

There are no young priests in Hopousia to inflict their inexperience on their fellow-men. Priests there are old men who have retired from other activities. Their duties are hearing confessions, advising, and assisting with rites connected with birth, marriage, and death.

Teachers

School-teachers will have five years' training; for the Hopousians realize the foolishness of letting inexperienced young people have the education of children. There will be no bureaucratic administration. Money will be allotted to each Headmaster, and the Auditor-General will inspect the accounts. Each Headmaster follows his own principles, theories, and philosophies.

In Hopousia widows will often become school-teachers. Married women can become teachers if their children are over ten years old. Women in Hopousia may also be land-controllers and lawyers. There will be few women doctors; and there will be no women in business or banks, for women must deal with life and its necessities, not with dead things like ledgers, etc.

Legally the sexes are strictly equal.

APPENDIX IX

Further Medieval Opinions

SAINT ANTONINO "fiercely forbids any formation of trusts or cartels or the authorization of monopolies for the purpose of securing dearer prices."

Speculation out of lust for gain is condemned. "When monopolists agree together to preserve a fixed price, so as to secure an unlimited profit, they are guilty of sinful trading." [1]

He condemned also false weights and measures; cloth that is not properly shrunk or so highly stretched that it splits at slightest pressure; houses with bad roofs, and too thin walls; ill-seasoned wood; watered ink; books badly bound; colours not fast.[2]

His views on poverty can be summarized by the following quotations:

"Riches are not evil; nor is poverty itself good. In itself it is an evil, though out of it good may come." [3]

"Everyone should have a sufficiency of food, clothing, and accommodation, and, unless such is guaranteed to the subjects, the rulers are at fault." [4]

"The Princes must see that there is no want in the city but rather abundance." [5]

"It is to the interest of the State to concern itself with the citizens, that they be not dragged down into poverty."

"For whatever cause the people are in distress whether through their own fault or not, the State is bound to provide."

His ideal city was one where:

(1) the poor and sick would be provided for;
(2) property would be fairly distributed;
(3) family life, made up of complementary beings, whose work was peaceably united because so totally distinct, should be the basis of the social structure;
(4) children would be educated in the knowledge of Good and in the arts and crafts useful to them in acquiring their livelihood;
(5) men would unite in peace with mutual duties, forbearance, personal supervision, just remuneration, obedience, and honest labour;
(6) there would be prompt payment of just wages which would vary according to the condition of the labourer, his skill, the danger of his

[1] Bede Jarrett, *S. Antonino and Mediaeval Economics*, pp. 69–70 (London, 1914).
[2] Ibid., p. 62. [3] Ibid., p. 69. [4] Ibid., p. 72. [5] Ibid., p. 73.

occupation, the need and number of his children, the customs of his country;

(7) an employer would rather care for and tend his sick workmen than be in a hurry to send them to the hospital.[1]

Of Truth, he says: "Among men no social life is possible except on the understanding that each speaks the truth. Therefore deceit, lying, and falsehood are destructive of human society and truth its preserver." [2] St. Antonino (1389–1459) was Archbishop of Florence from 1446 to 1459. He was a Dominican.

See also:

BEDE JARRETT: *Social Theories of the Middle Ages*, London, 1926. (This deals especially with Usury and Just Price.)

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[1] Bede Jarrett, *S. Antonino and Mediaeval Economics*, pp. 75–76 (London, 1914).
[2] Ibid., p. 62 f.

APPENDIX X

Hopousian Standards and Those of Christendom

It is interesting to see how Hopousian standards agree with those of Christendom. In Christendom the measure of just gain was the standard of a man's class; in Hopousia the measure is that of energy.

In Christendom avarice was condemned. The idea was that God had created man in order or ranks, lords and commons. Each rank had its own work to do and each its appropriate mode of life. Gain was an evil thing, but gain was permissible in order that a man might provide himself with the sustenance due to his rank. The Hopousians do not believe that God created men in ranks, but they do believe that a man should rank according to the energy he displays. For this energy there is a definite money-equivalent which the man receives. But he receives no more than this; nor can he ever obtain more. Thus avarice cannot exist in Hopousia. For avarice is eagerness to gain beyond the sustenance due to rank; and if such gain is impossible avarice finds no outlet. An emergent result of Hopousia, therefore, is the disappearance of avarice; for what has no outlet after a time ceases to be. Christendom did not shut out avarice.

The limitations on avarice imposed by the Schoolmen were based on the judgment of Aquinas, who said that trade was justified because it supplied the country with the necessities of life. But in such a case, he added, the gain was not an end in itself, but "payment for labour."

This is the Hopousian view. All payment is made in return for a display of energy and for no other reason at all.

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