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BORDERLANDS OF ECONOMICS



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PREFATORY NOTE

THIS treatise is the outcome of a course of lectures delivered under the auspices of the University of Lucknow during the years 1921-25. I have noted in the bibliography at the end of each chapter the authorities on the various basal and borderland sciences which have guided me in the several lines of economic interpretation. The scope and treatment of the book are frankly prefatory, but I trust will suffice to foreshadow a system of economics revived at its foundations and renewed in its methods by a broad-minded co-operation of the sciences of life, mind, and society in keeping with the intellectual vogue of the day.

I have to express my special indebtedness to Dr. N. C. Sen Gupta, who has helped me through many difficulties ; and to Mr. D. P. Mukherji, who read the entire manuscript with critical care. I have further to thank Professor W. Burridge, who read the first draft of Chapter XIV, and favoured me with valuable criticisms and suggestions.

RADHAKAMAL MUKERJEE.

LUCKNOW,
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CONTENTS

CHAPTER	PAGE
PREFATORY NOTE	5
I. INTRODUCTION	9
II. ECONOMICS AND ITS BASAL SCIENCES	13
III. THE UNCONSCIOUS AND THE RATIONAL	23
IV. ECONOMIC BEHAVIOURISM	31
V. THE MISFITS OF HUMAN NATURE	55
VI. THE ANTHROPOLOGICAL STANDPOINT	77
VII. THE INSTITUTIONAL BACKGROUND	87
VIII. THE HUMANIZATION OF ECONOMICS	100
IX. THE GROUP CONCEPT	120
X. THE MEASUREMENT OF THE AFFECTIVE PROCESSES	140
XI. ANTI-INTELLECTUALISM IN ECONOMICS	158
XII. THE PSYCHO-ANALYTIC VIEW OF ECONOMICS	169
XIII. HUMAN GEOGRAPHY AND ECONOMICS	183
XIV. PHYSICS AND ECONOMICS	197
XV. BIOLOGY AND ECONOMICS	218
XVI. SYMBIOSIS, ORGANIC AND ECONOMIC	240
XVII. THE NEW ALLIES OF ECONOMICS	254
INDEX	273

BORDERLANDS OF ECONOMICS

CHAPTER I

INTRODUCTION

THE present work touches briefly the remarkable advance in the basic sciences, now fashioning a scientific theory of human nature and conduct which makes a recasting of the aims and methods of economic analysis inevitable. In exploring some new approaches in regions of thought bordering on economics, this work opens up vistas for further research, indicates methods of investigation rather than results, and exhibits some typical examples without trying to cover the whole ground. It seeks thus to enlarge the horizon of economics, and to outline the new system : though for the outline supplied no completeness is claimed, since a preliminary survey can aim at little more than marking out ground for later detailed study. A certain amount of repetition may be excused by the necessity of showing basic ideas and principles in many lights and relations for clearer exposition.

The task of a student of the social sciences is much more complex than apparently was realized in the past. Workers in these sciences must regard the phenomena of life and mind as a whole, now being presented in a new light. In attacking the economic problems most nearly concerned with human nature, we thus have sought the aid of psychology, physiology, ethnology, etc., which supply the apperception mass into which the strictly economic fact is to be assimilated.

The first quarter of the twentieth century has been occu-

pied with rectification and consolidation of discoveries made in the second half of the nineteenth. The rapid advance of biology, psychology and ethnology has focussed the complete view of man—physical, psychical and social—which links up the apparently discrete economic phenomena in an unbroken causal chain. This deeper insight has been accompanied by an accurate method of study and measurement. The principal instrument of study in this sphere is the science of statistics. The huge number of cases that necessarily must be surveyed in connection with social phenomena, and the tendencies and directions as well as rates of change or evolution in social affairs which would be invaluable for a sound scientific perspective of social matters, yield themselves to study by the statistical method only. The linking of human geography and folk psychology enables us now to see the *region* as not merely furnishing the stimulus of human behaviour, but also as fixing social types through a similarity of environmental reactions in a common stimulating situation, and these reactions are observed by the statistical method. Anthropology has become regional and has been aided by psychology and physiology in isolating racial types by means of physical standards and tests. In sociology the use of the survey and the case method has aided greatly the development of a more accurate, statistical investigation of social phenomena. The statistical method not only reveals the order of phenomena, but also becomes part of the technique of experimentation. Even in ethics the quantitative method is no longer inconceivable. Everywhere the emphasis has shifted from the interrelation of the individual and society to the interrelation and interaction of individuals and groups. Both ethics and politics are centring round the vital social groups, the prevailing habits and customs of which, along with their enforcement (and enforcers), yield themselves to the new methods. The inductive study of political attitudes and public opinion is making rapid strides, furnishing a scientific clue to ethical judgment and legislative action. The effect of social and group practices, not merely on social welfare but also on individual conduct, is more precisely determined. In education and social life generally the study of the biological, unconscious

aspects of human nature has emphasized the grave consequence of the repression of desires of individuals and of groups. The supreme need is being felt of their adequate expression and of their discipline and diversion into useful channels of social endeavour. This has meant also a recasting of purpose and of technique in all the social sciences.

The conceptual constructions, such as society, social mind, public opinion, and the glibly uttered phrase, "supply and demand," or the concept of value, which formed the basic premises for the deductive systems of the political and economic theories of the past, have had to give way to the observation and quantitative survey of determined states, processes and activities of groups and individuals.

The consequence of this scientific attention directed to human problems, social and individual, has been the determination of a large number of variable factors, which have demolished the balanced ideas and symmetrical structures formulated by the master minds of the past. Thus, though the human sciences are more uncertain and hesitating in their ultimate conclusions, there is a deeper understanding and appreciation of the complexity of the various problems. For example, in the sphere of economics, the classical idea that the economic behaviour of man consists in the expression of a limited number of well-canalized and invariable "wants" has to be modified out of recognition in the light of recent studies of the human mind. The expression of human motive is determined, it is found, not by a few but by a very large number of independently variable impulses, so that a small change in any of the impulses would lead to a rearrangement of the basic factors that constitute the human motive. As a result, the expression of the motive, too, shapes itself in an altogether different pattern, and the object of the human endeavour changes with each shifting of the pattern. Thus, the process of valuation is not a simple relation between a well-defined unit desire and its object in a simple quantitative sense. It is rather a function of a large number of independently variable factors of human nature which in their turn are determined by a number of independently variable factors of the environment. The influence of these considera-

tions on economic thought is primarily to introduce a certain amount of fluidity into our concepts. Instead of believing in eternal values, the economist has to picture them as no less volatile and transitory than human nature itself. The study of group life approached from so many different directions, however, shows that the stability of economic values is not the outcome of the economic instinct or instincts, but of the solidarity of group life. We thus are reaching a stage when the economic concepts, such as value, supply, demand, etc., will need to be viewed in a dual light: first, how they arise from ever-changing human nature; and, secondly, how they are stabilized and organized by the group. The group life of man, moreover, has been studied intensively from its very roots in the organic world to its ultimate ramifications now visibly living and evolving. It has been regarded, in the same manner as the individual life, as a determinate object with infinite characteristics amenable to the application of the scientific method. Prediction and control, which so frequently follow the analysis of the scientist, may be possible in the sphere of group life at no distant date, and with that will come a greater accuracy in our anticipations of economic trends and policies.

But, although we have the objectivity and exactness of the methods of natural science applied to the study of human conduct and of social relationships, the conception of personality that has emerged is in revolt against the mechanical view of life. The larger social forces and the basic factors conditioning contemporary intellectual processes as reflected in the natural sciences and in philosophy thus profoundly affect the character and method of economic thought. Politics, sociology and history are undergoing rapid metamorphosis, and economics also must take the same road to scientific salvation. New developments are foreshadowed in many quarters, but these remain isolated and even apparently incompatible theories. The aim of the writer will be fulfilled if the present work be found contributory to further classification and co-ordination in the difficult undertaking of bringing economics into harmony with the most enlightened science of the time.

CHAPTER II

ECONOMICS AND ITS BASAL SCIENCES

Economics behind Modern Thought.

The familiar notions of matter, life and mind have undergone, in the present generation of scientific workers and philosophical thinkers, a complete revolution not only in their significance but also in their importance even for a purely scientific presentation of the facts of daily life. The concept of relativity has changed the classic foundations of the physical sciences, while the social sciences under the guidance of biology exhibit to-day the human world as woven after the pattern of one great Web of Evolution, "organic" or "super-organic."

Economics, however, has not been brought sufficiently into touch with the results of recent experimental investigation in biological and psychological sciences, and misses the modern dual viewpoint, "the alternating yet rhythmically unified inter-action of biological and sociological thought with physical studies, and physical thought with biological and sociological studies." This alone can render the treatment of economic problems at once more expressive, vital and synthetic.

Social Behaviourism, Key to New Economics.

With the demonstration of continuity, the dividing frontiers between physics, biology and the mental sciences are disappearing. The future investigator with his extended grasp of physics, his more exact knowledge of the biological and psychological processes and his larger conception of mental and social evolution, will be able to throw new light upon some of the current concepts of economics. In physiology the conceptions and methods of physics and chemistry are not

only capable of application to the phenomena of the living being, to the measurement of the taking in and giving out, for example, of its energy but also are essential for exact knowledge of these phenomena¹. Indeed, the modern conception of matter as well as the laws of the conservation of matter, one aspect of which we have learnt to recognize in the circulation of elements in the organic world, and the extension of the laws of the conservation of matter and energy into the domain of biological chemistry, ultimately may furnish us with a new measure of value in terms of vital energy. The socio-psychological foundations of economic theory also need a thorough revision in the light of behaviourism, which is the outcome of the application of biological and experimental methods to psychology. It is true that the economic man is dead, but his funeral rites still remain to be properly celebrated by his legitimate heir, the behaviouristic man, who has emerged from the laboratories of the psychologist but has not yet taken his rightful position in the centre of economics. Behaviourism transforms the psychological notions of economics into objective realities and lays bare the invisible drives which impel economic activities. It will yield, after a successful generalizing process, recognizable norms of human behaviour, the relative influences of which will be weighed and substantiated by quantitative measurements in the laboratories of the coming generation of psychologists. This is an enormously intricate and necessarily co-operative task which must, however, be undertaken because in economics both demand and supply at present are reduced to unknown and uncertain human-nature quantities, serving as standards of measurement. In borrowing from social behaviourism, economics also will contribute to it when it measures objectively the relative weight of economic drives which are found in fusion with other instincts in action.

Economics no longer Individualistic.

With the measure of value the process of valuation also will be reconsidered in the light of the new psychology. Modern

¹ Haldane : *The Reign of Relativity*, p. 23.

economics starts with the social rather than with the individual hypothesis. Thus it no longer emphasizes the rational side of man's nature and the phenomena of competition. The biological, unconscious aspect of nature, the play of gregariousness and consciousness of kind which mould and direct the individual will and reason and the connected phenomena of group life, now receive emphasis. The faith of the founders of economics was that man by his very nature pursues his own gain and that thereby he invisibly promotes his individual and social welfare. This is neither a fact nor a mystery, but an ideal which social psychology aspires after. Man, by the refining process of traditions, morality and institutions built up through use, acquires such behaviour as produces unity of action and solidarity within the social group. But social life is still full of conflict between man's crude and unlearned tendencies and higher social ends. Economics, which formerly succumbed desperately to the hyper-rationalizing tendency of the past, is no longer unmindful of the richness and complexity of man's nature or its vital relations to the envioning social consciousness. In the former treatment, economics conceived of the manner in which a solitary person evaluates goods and how a single instinct, working in isolation, and having reference to bodily necessities only, evokes supply and creates demand. Value, with all other collective judgment, is now regarded as a product of the social mind, while the fusion of vital urges and functions in man's conduct exhibits both demand and supply in quite new aspects. This not only lays bare the divorce between the realities of social valuation and the current economic analysis, but also throws light on social ends and ideals which economics now is bound to understand and seek. Man's progress is seen to depend on the evolution of his social impulse, habits and institutions ; and the logical formulæ of supply and demand in economics, which played havoc with man's varied impulses and affections, and indirectly justified the acquisitiveness of modern society, now yield themselves to more general norms based on deeper and wider social values and experiences. Value, as the psychologist now understands it, is the term applied to the stimulus of an

instinct or habit, which response measures or indicates the value. The stimulus elicits a variable response, and the occurrence or non-occurrence of such response is a function of man's social experience and of habits, which are generalized experiences or institutions for approaching the particular stimulus. All the social sciences deal with man's experiences, values, standards of control, etc., in diverse fields of reactions to the environment; but economic practices, unlike other standards, are of a determinate or quantitative character, as expressed in the magnitude of goods, duration of services, and price (amount of pecuniary symbols) involved. As long as we conceive human behaviour as volitional and purposive, it must escape experimental study. We can experiment, however, on habits, standards and so on, although we cannot do so with such conceptional creations as an economic system which operates through the set of equilibrating forces called demand and supply, or the economic man, who pursues rationally his own interests as these forces may permit. There are numerous experiments on group behaviour now on the way, dealing for instance with various economic groups and industrial organizations: the facts of a concrete stimulating situation are now collected and analysed with the aid, first, of business statistics (of prices, production, credit, etc.), and secondly, with the help of social-psychological concepts on behaviouristic lines. Demand and interest, vocational and intelligence tests, rating scales and trade tests, fatigue and turn-over, learning and individual differences, are all now analysed statistically and used effectively by the psycho-economist on economic problems. It is thus economics comes into line with the general standpoint of natural science and considers that "the most useful and fundamental account of behaviour can be given ultimately in physico-chemical terms, mental states being used only as frequently necessary or convenient mirrors reflecting the underlying mechanics". Scientific management, however, as applied by the devotees of increased production and profits, has been found unscientific. The human and group factors frustrate the calculations of the experts of motion-study and workshop organization. Thus

there is growing recognition of the study of psycho-social conditions of group behaviour with repression and expression of natural impulses. It is only a harmonious relation between work, body, mind and environment that can secure largest wealth and welfare. The consideration of welfare, in which social and individual choice and judgment are exercised and which does not yield so easily to the quantitative methods of treatment, must enter into economics that must await further achievements of the quantitative method in sociology to produce a plan of developing and hindering group behaviour, which promotes social *welfare* based on an analysis of quantitative accounts of social reactions.

Biological Aspect of Economics.

There is another direction from which the conception of welfare comes reinforcing economics, *viz.*, the science of life. A synthetic view now has emerged that in science as well as art we must work up to the human series from below the organic line. From the evolutionary standpoint, value is regarded as the essence of adaptation, an incessant renewal of relations to new conditions of life, which cannot be subject to the rigid necessity of determinism. Instincts and desires and the social and economic institutions which satisfy them are regarded as an additional weapon in the struggle for existence, a means of adaptation. The broad course of organic evolution shows us the dangers of deviation from the normal process of biological mutualism, as a result of which we find, for instance, in lower social creation that the instincts subordinate the individual to the group. Biologically speaking, disease consists in the destruction of more recent evolutionary developments, with a consequent lawless accentuation of more primitive mental processes ; similarly the symptomatology of mental disease shows a wider range of atavistic tendencies than one meets with in a normal people¹. Modern economic organization has developed the appropriative at the expense of the creative impulses to an extent which many regard as

¹ *The Journal of Abnormal Psychology*, 1921, p. 250.

incompatible with an all-round growth of individual and social well-being. The sudden and rapid growth of industrial institutions has caused everywhere a disparity between creativeness and industry, and between moral and economic values, and the cultural or educational process can be delayed no longer. Economics hitherto has articulated the irresistible claims of the mechanical industrial system which sweeps individuals as wisps of straw in its strong currents and tends relentlessly to drive out the moral element in human life. The machine process has introduced what Mr. Graham Wallas has called, "The Great Society", the advent of which has transformed the traditional individualism into a collectivistic, not to say a socialistic philosophy, but its premises as well as its ends are all biological and economic in character. Industrial direction with all its related problems has called for new fields of application of science to the principles of control and labour management, full of significance for the future of society. Scientific Management no doubt has parted ways with the older *entrepreneur* creed; yet, with its idealism, it becomes arbitrary and mechanical in the handling of human material and tends to destroy the living fabric of individual and group values. The new social conscience is in revolt against economic absolutism and the mechanical view of life: it protests against the economic determinism of both socialists and communists. It is realized now that the economic structure or the laws of its development do not carry with them compelling force and necessity, and that man should utilize them for his own ends, or adjust himself to them, instead of being crushed by them. Again, the emphasis under the present complex conditions of secondary needs and particular means, on the basis of which groups of individuals in conflict with each other now are formed, appears to represent a pathological state of individual and group mind from which modern civilization must be rescued. This need is shown also by recent studies, psychological and ethical, of the social process, both in its normal and abnormal aspects. The biology of work and life, of energy and life's functioning, and especially of that integrated mutualism to which is extended

the concept of symbiosis, throws light on the dangers in modern society of deviation from fundamental laws or organic development. It reiterates the need of social direction to rectify the maladjustment of the social and economic forces to the vital needs of the individual and the race. It is more and more recognized that economic progress lies in conscious selection and adaptation which will bring about greater social solidarity by the education and direction of right instincts and impulses: indeed, this is the great object of the experiments in group organization seen to-day in every field, economic, political or educational. Man's gregariousness and social instinct, which are sublimated from a prior group instinct, represent his organic capital and have developed groups as dynamic and integrative realities; and modern evolutionary economics must take special account of the group processes more than of the individual from the biological as from the psychological viewpoint.

Groups and Values.

Group formation and development are brought about by factors of natural selection by shifting the burden of the struggle for existence from the individual unit to the whole. The group is thus a biologic necessity and the herd instinct is the outcome of natural selection modified by social experiences. Man belongs to the group by his very nature; the impulse-satisfying group by realizing for him certain values exercises over him an influence which we call loyalty, allegiance, etc., and serves as the environment in which man is moulded and which is moulded by him in return. There are as many groups as there are values. There is also a group-orientation as there is a hierarchy of values. There is, again, an interpenetration of group-life which involves man's various allegiances that seek the realization of his complex and composite personality. Normally these allegiances are unconscious—they are simply predispositions. But when these become complex and differentiated by the play of imagination and other kindred emotions, they rise into the conscious plane and assume the shape of felt needs and desires. Value then

becomes the standard of satisfaction. Group solidarity consists in the harmonization and adjustment of values and of value fulfilment. Corresponding to the law of individuation and differentiation of wants and their progression from the unconscious to the conscious, there is unfortunately in group-life the phenomenon of repression, the result of partial or complete non-fulfilment of impulses. It is this repression which is present in all people, potentially capable of producing psycho-pathological reactions. Abnormal mental reactions are produced by the incomplete evolution of the conscious from the unconscious due to the domination of certain instincts over others ; or by the conflict between instincts or instinctive derivatives within the individual himself ; or, again, by the censorial action of certain conventional standards of conduct and institutional values. Herd influence is of inestimable value as a force in making for law and order, but it often identifies convention with justice and perpetuates standards, traditions and beliefs, which might not be conducive to the best interests of society.

Complexity of Group and Economic Life.

Again, the group orientation or the cultural standardization is as varied in type as is the organic creation. As we have noticed before, man's instincts and his economic and social institutions have evolved under the operation of natural selection as adjustments in the process of his adaptation to the environment. Thus groups are crystallized and institutions standardized. Heredity, organic and social, leads to the similarity of instincts and habits and their abiding and cumulative influences differentiate social and economic types and regions. Social inheritance thus includes differences in racial endowments, and a variety of satisfactions and social values is the very essence of social and economic adaptation. While social psychology, as we have seen, cannot approach the quantitative accuracy which has been achieved in the natural sciences, still it is possible to employ statistical methods in studies of comparative satisfaction of different economic

types and regions so as to analyse and evaluate different types of impulsive behaviour of a population. On the basis of such comparative and regional studies, we may find out correlated economic structures and values which answer to the multiform variations in sociological types, and from which we will derive primary classifications and first inductions that will furnish the basis of universal economic laws. Otherwise, the principles of economics, which are deduced from the social history or economic conditions of one type or region, will not be universally applicable.

Need and Scope of the New Economics.

Evolutionary economics not only will develop new economic concepts in more correct terms of organic service and well-being, but also will expand thus the historical or regional school of economics on the basis of human geography on wider and more scientific socio-psychological foundations. Indeed, the historical school has not led us very far. It has confined itself in the main to the socio-political factors and misses the full significance of social or ethical values and group organizations in economic life and evolution. Ethnology and sociology in their broad surveys are dividing man's social history into certain broadly-marked types, each of which has a distinct place in world economy, which can be filled by no other. This implies the need of a better appreciation by economics of the economic systems and methods of different peoples in different geographical and social environments; and of control and regulation, international if necessary, of the blind forces of economic competition which set at nought the customs and habits of the immature and less organized peoples. Indeed the real foundations of the League of Nations lie in the scientifically adjusted relations between advanced and backward races. The rehabilitation of a sounder psychology and biology accordingly will have an ethical significance, and this for the adjustment of inter-state and inter-racial relations alike. Thus beginning with a physico-chemical, biological or dynamical investigation in economics

we rise from energies to life-values into which the former are transmuted in the ethical plane, and in the multilinear and diversely ramifying course of sociological evolution we find both the laws of mechanics and biology subordinated to conscious choice and progressive adaptation in a variety of historical types and regional cultures which have woven the parti-coloured tapestry of civilization.

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CHAPTER III

THE UNCONSCIOUS AND THE RATIONAL

Importance of the Unconscious.

In the sciences of mind and society, the concept of the unconscious mind, which was self-contradictory to the older theorists, has opened up new avenues unknown and unimagined by them. We are coming gradually to realize that the perpetual driving forces of human emotions and conduct come from the great region of the unconscious. The unconscious nature of man thus serves to revise the standard of value set up by the British utilitarian school in terms of the hedonistic calculus, whose inadequacy has long been clearly recognized even by the economists. Value is to be measured not only in terms of conscious desires and purposes, but also in terms of the unconscious and biologic responses of the organism, as well as in terms of the wider law of equivalence between the biological and the physical, *e.g.*, between food consumed and work or energy produced. The road of physico-chemical investigation in biology has had many to follow it, but no economist has looked that way. Similarly, the unconscious mind has been little explored in the interest of economic analysis. We need not doubt that the travellers along this pathway will reap a rich harvest.

Tyranny of the Conscious Self.

The earlier intellectualistic interpretation of human conduct assumed that even the most inconsequential acts were the result of reason. Nowhere was the omniscience and omnipotence of reason more manifest than in the field of economics; in no other field will the present revolt against

a mythical, almost mystical, rationalism achieve better result in the analysis of psychical causation and the establishment of a revised theory of intellectual control based on the tested facts of science instead of its mythology.

Based on an inadequate psychology, economics has developed, indeed, into the art of tyranny of the conscious self. It was the logic of the nineteenth century school of logicians, mostly British, which also suggested and supported this attitude. Economics, the laws of which were first explained in a rational and scientific way in England, thus was dominated by the current British metaphysics in the same manner as psychology. The theory which arose is described as Psychological Atomism. It supposed that the conscious states were discrete in their essential constitution and combined together on the analogy of chemistry by affinities. It furnished the standpoint and basis of much of the sociological and economic thought of the last few decades. The orthodox analysis of economic forces which led to the discovery of certain impersonal and mechanical laws that rule the dynamic and purposive "human values" yields but slowly to an organic and concrete human-interest outlook.

Schools of Economic Thought.

Thus we have to weave together three divergent and apparently contradictory trends of economic thought. In the first place, there is the old Classical School of economists who measure value mainly in terms of conscious conation, as we find illustrated even now in the neo-classical revival and synthesis. Their analysis yields no sure basis, inasmuch as the wants and energies of the human individual are not limited to the conscious sphere. It is for this reason that, while they assume utility as the main determinant of value, they take recourse to simple abstractions by which they evade the facts of human nature which go contrary to their hypothesis. But value is also to be interpreted in terms of the power to fulfil or thwart wishes, one's own or others', often unconscious. Here the standard in the individual case is governed by instinctive mechanisms of behaviour as well as by activities

and desires of the group, the reactions to which are seldom rational. In the case of relative satisfactions between the individual and the group, the standard of value is governed by such factors as social memories, traditions, beliefs and capacities which are often superimposed upon and override the merely utilitarian valuation of the individual.

Secondly, there is a school of social and economic thinkers who look upon the environmental conditions, such as the climatic, geographical, etc., as the main determinants of economic values. This tendency, though inarticulate, has expressed itself in many a form of the materialistic interpretation of history. In their case value is regulated by the law of social selection. Man is placed within an inevitable setting of the whole natural and social *milieu*, and the interaction between institutional and environmental forces governs value by progressive adaptation. This is suggested by the historical school in Germany, and, later, by certain Marxian schools of socialism.

Thirdly, there always have been those who have fought against economic theory and systematization and appealed to the indeterminate human impulses, which are not amenable to the logic of the pure economist. Among these may be instanced the sociological school, representing the psychology of the business man, and rejecting the claims of analytical enquiry and economic generalisation. If we may coin a new name, we may call this school Economic Vitalism, as opposed to the intellectualistic and mechanistic interpretations of the preceding schools.

Composite Economic "Urge".

But the actual economic phenomena are far less simple. The conscious, the physical, and the unconscious interact, and give rise to the concrete economic "urge" (*élan vital*, *horme*) which serves as the basis of economic activity. Each concrete economic "urge" is thus the outcome of the fusion of the physico-chemical dynamic tendencies, the biologic instincts and impulses, and of the ideas and conations of the conscious personality. The physical and the unconscious

always conceal themselves in the conscious expression of the economic desires, but their specific contribution to the formation of these desires is both real and calculable. It is obvious that each of these would have its satisfaction in a specific kind of value. But, just as these tendencies operate only in fusion with one another, the corresponding values, too, appear to us blended with one another. Therefore, the actual economic value with which we are to carry on our calculations is a composite one in which the various value-planes sublimate themselves.

Cycle of Values.

Starting from the law of conservation of energy, which rules the physico-chemical modifications of the organism associated with the emotions and their expression, it thus embraces the law of relative wish-fulfilment and the law of progressive adaptation, which govern respectively the spheres of the unconscious and the conscious mind. This ultimately flowers into the law of conscious choice in the introspectible plane. Such planes are, as we have seen, not geometrically separate, but each is compenetrated by the other and serves as the basis of a fresh uplift in an ever-ascending, ever-enveloping cycle. The respective principles of value show also a corresponding ascent in which the elements of the lower level are utilized in the higher. The cycle of values is thus not repeated continually on the same level but rises on an upward course connoting an uplift of the quality of life, each step measuring a new and higher synthesis.

Conflict of Conscious and Unconscious.

But in human psychology we are familiar with the phenomena of conflict and disruption of the unified personality, and in such cases the contents of the unconscious plane dominate and alternate with the usual conscious self. In social psychology, too, the same phenomena appear and persist, more often perhaps than in the case of the individual, giving rise to maladjustments, anomalies, or anachronisms, due to the operation of tendencies, long concealed in well

accepted forms and standards of social activity, and suddenly brought to light under environmental stress. In economic life, there is a similar conflict of the value-planes brought about, for instance, by the disparity between physiological recoupment and work, between herd instinct and appropriative motive, between custom and economic standard, or between social aspiration and economic efficiency. Such conflict is governed by the same law of reversion to the primitive and the primal, and much of the analysis of the present economic situation resolves itself into these factors.

New Paths in Economic Enquiry.

In economics, value has been treated fully from the standpoint of logical introspection. It will be our purpose, therefore, to study mainly, as our previous analysis suggests, the *rôle* of the environmental and the unconscious processes in economic life and evolution. Thus the concept of the individual in our economic calculation will be different from that hitherto adopted—the economic man or the purely biologic man. We shall seek, therefore, the new approaches of Social Psychology, Human Geography and Cultural Anthropology in preference to the hitherto pursued paths of economic enquiry.

Psychology, an Ally of Economics.

Let us review in slight detail the influence of recent psychology as a new ally of economics. In the first place, the analysis of psychological and biological conditions surrounding society, which behaviourism forecasts, establishes its claim for the social sciences by the scientific methods of demonstration; it necessitates a re-examination of the psychological assumptions of various economic doctrines so as to make possible a psychological description of motives of men in economic life. Economics owes a new basis to-day to functional social psychology and orients itself with the larger ends of man as a producer and consumer of values which themselves expand and deepen with the unfoldment of his sociality, having full regard to the instincts which form the

yeast of his racial subconscious. His instincts and impulses no longer are regarded as fetters or as forces which impinge upon and deflect man's normal economic functioning. They are absorbed and transmuted into complex satisfaction values which follow efforts in their complex formations and are not resolvable into certain simple abstractions. Nor are they revealed to us as behaviour reactions not much different from those of the beast: the recognition of such things as "human values"—which are unique as values, because they are racial heredity and temperament of different peoples which, in their turn, are moulded in great measure by the selective actions of the physical and the social environment, thus having no community of purpose with the beast—will be a corrective of much of the present-day theory and practice of psychiatry, which we find incapable of seeing in the fully integrated human being something different from a unity which can be explained on purely mechanistic principles. Secondly, recent studies show that human values have their grounding in comparative social traits of various races. It is realized, moreover, that the unity of volition and reason with the deeper racial drives, the instinctive "ground patterns", makes possible the social integration as well as the development of personality. Thirdly, the theory of conduct now being given by the new psychology developed out of the impulse of the Freud-Jung movement is of increasing significance for economics as for other social sciences: the evidence of psycho-analysis on the questions of repression and group suppression, in particular, is of great value towards the solution of many of the problems of modern economic unrest. And, in this field, psycho-analysis will be far more useful in its applications if, instead of confining the attention to the individual regardless of his social habits and inheritance, it takes into account the whole social environment in the analysis of what are recently described as "situation neuroses". Though it is admitted that something is inherently lacking in the psycho-analytic theory in its application beyond the purely medical field, it correctly explains for us the etiology of many of our attempts at social and economic reorganization, and to-day it almost assumes the proportions

of a positivist sociology or psychology. It has been furnished with a sound basis on a premise in keeping with organic and social evolution, and the movement in building a sociology around the psycho-analytic theory has gone so far that serious warning has been raised in the orthodox world against what are regarded as unwarranted encroachments.

New Economics and Social Reconstruction.

The psychology of the unconscious with its emphasis upon the danger of suppression of elemental urges, reiterates that emotional states of irritation and depression as well as the psychological factors of specific occupations and of the industrial environment as a whole—factors not dreamed of in orthodox economic theory—lie behind modern economic unrest. It helps towards a scientific study of the conditions of industrial life and management. In its insistence upon opportunities being given for an outlet of the unconscious impulses, always struggling for expression, and arraying them on the side of progressive social activities, it offers a new solution to the problem of social reconstruction. Thus economics is not converted again into a “dismal science”, though the original equipment of human nature attracts renewed attention. With our new knowledge of educational methods and processes and the cultural value of institutions as reshaping man, and remoulding his values, the idea of purposive intelligent control over institutions comes to occupy the very centre of economic thinking. The war and the industrial changes which followed it have shown also that institutions are more malleable than they were supposed to be; and, indeed, we now live in an age of prolific economic experiments. The rival schemes of industrial self-government, socialism, syndicalism, or communism have to be judged, with all other such human arrangements, by the test whether the balance struck between expression and repression in the economic institutions is the one best conducive to the development of personality. Nor will the human institutional adaptation be of a standardized pattern; for races and regions vary in the endowment of instincts and in their social inheritance, though

the intercourse of economic ideals and education comes to modify habits and traditions.

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CHAPTER IV

ECONOMIC BEHAVIOURISM

Widened Scope of Economics.

It is admitted on all hands that economic theory of late has suffered some arrest. Economics has not been much more than a description of an assemblage of wonderfully interwoven forces which are at work and a descriptive tracing of the particular consequences which they produce. Economics, therefore, has not been able to cope with the insistent demands of economic reconstruction which the war has brought to the fore. The war has revealed that empirical description of forces is not the whole of economics. Economics can be no longer a mere handmaid to business and industry, fitting its theories to the grooves of the present order. The different schools of socialism have shown economics to be the very quintessence of humanism and these now dominate modern social thought. The need of radical modification of aims and methods, emphasized by socialism and increasingly felt during and after the war, reveals the fact that the exclusive sovereignty of intelligence and rational law can be assumed no longer in the explanations and systematizations of economics. But the socialistic creed that a new era will be ushered in by the breakdown of the present régime of capitalism by the completed evolution of the latter, testifies to the strength of a mere pious wish rather than to the reasoned anticipations of science. More and more are we realizing that we must go back to an analysis of the originating conditions and factors in social life, to biology and social psychology, in order that we may have detailed intelligence, not mere desire, to direct society. The study of social behaviour in its conscious and

unconscious aspects and the science of education are also widening the scope of economics, and with the more extensive knowledge of social and economic institutions of different regions brought by international intercourse, we are rising to a new conception of what the social instinct and the different forms of social and economic organization that it prompts really mean and can do among different peoples. As opposed to classicism versus socialism, geneticism now opens a great middle way, as is seen in the historical school, social anthropology, human geography and the new psychology which in its analysis alike of the individual mind and of folk values and national ideals is affecting methods in the entire group of the sociological and humanistic sciences. The difference in treatment is the same as that between logical introspection and behaviourism. Economics was grounded upon the rational side of human nature by the classical school who worked on the foundations of extreme hedonism and intellectualism in psychology; the biological unconscious aspect of nature with the instincts of gregariousness and sympathy which prompt institutional and cultural standardization on the one hand, and the connected phenomena of co-operation on the other, will now receive emphasis.

Two Defects in Modern Economics.

Broadly speaking, there are thus two important defects in modern economic science. In the first place, economic principles have not kept pace with the recent advances in biology and psychology; they have remained more or less a blend of hedonistic psychology and utilitarian ethics. The sensationalistic, associational psychology of the last century is still the assumption of modern economic analysis. The psychology of motivation, of individual and social behaviour, is still inadequately recognized in economic theory which concerns itself with the working of one human motive, and is apt to forget those external aspects of human psychology which represent man's manifold reaction to a concrete environment. Economics still bases itself on an inadequate analysis of the primary springs of human action. It has thus reared up a system on

a logical method the insufficiency of which is now increasingly recognized and has taken only a fragment of real living man and a distorted though intensified shadow of his relations and activities.

Secondly, this limitation in method and analysis is as a matter of fact associated in the age of steam and iron with the ideal of mechanical as opposed to vital or purposive efficiency. This has sought quantity rather than excellence derived from individual variations in production and consumption, and repressed some of man's vital and perennial instincts and impulses. These are the mental forces which along with conscious desires not only maintain and shape all the life of individuals and societies but also are conducive to the development of personality as well as of an all-round social well-being.

Evils Traceable to Defective Economics.

In economic theory this tendency in reality has been the outcome of the old philosophy which believed that individuals are alone real, and has missed the fact that the individual is also a social product and ignored the dynamic and constructive rôle of the interplay between the individual and his institutional environment. It tallied with the ideal of that philosophy which extolled the dignity and grandeur of individual perfection and absolute independence, and with that unreflective, haphazard Darwinism that traced progress only to competition and mutual struggle and that served as the background of economic individualism—the postulate of classical and neo-classical economics. Individualism, which was the keynote of the eighteenth and nineteenth century thought till 1870, rested primarily on hedonism and utilitarianism, but was buttressed by the Smithian economics of *laissez faire* and the dominant commercial spirit, the outcome of the Industrial Revolution. The gradual supersession of all human relations by the cash nexus and the loss of independence and status of the working-man, who is reduced to a mere automaton, were in keeping with the neglect and suppression of the social self. Indeed, the wage system, which is the development of modern indus-

trial conditions, on the one hand has increased personal freedom, and on the other diminished, nay, destroyed, the strength of those personal and social ties which bind man to the family, the ethnic group or the neighbourhood. Modern standardized production has divorced the individual from all relationships, except those of an automatic subservience to the vast and all-absorbing machine in which he loses his human personality, and "scientific management" carries out this ideal with mechanical rigidity and preciseness, dropping out every kind of human relation. The growth of tenancy under the form of a lease, which allows no compensation to the tenant for unsettlement, or for his investment, has brought about the existence of a shifting rural population, not tied to the soil or neighbourhood by social bonds, but itself a part of the inexorable demands coming from the urban congregations to subordinate all impulses and relationships to the fetish of industrial fitness and efficiency.

Indeed, the repression of elementary impulses has brought about the disturbance of the economic equilibrium in a widespread industrial unsettlement and unrest; and it is the aim of post-war economics to establish industrial peace as well as to correct that divorce of industry from art and from creative activity, and from the human and personal note, without which the finer cultural developments of personality and humanity are impossible. And in this aim, again, economics will certainly get inspiration from recent investigations into the region of the unconscious, which all demand a recasting of the older economic creed fixed by the deductive methods of analysis.

Social Importance of Instincts.

According to contemporary psychology, it is the instincts which are of primary importance for the social sciences, because it is these which sustain mental and bodily activity and regulate conduct, which are the mental forces, the sources of energy which set the ends and sustain the course of all human activity, "of which forces the intellectual processes are but the servants, instruments or means". This, however, is an exaggeration, for the intellectual processes have an

independence and survival value of their own over and above what they have in relation to instincts. McDougall, however, says: "The human mind has certain innate or inherited tendencies which are the essential springs or motive powers of all thought and action, whether individual and collective, and are the bases from which the character and will of individuals and of nations are gradually developed under the guidance of the intellectual faculties." Elsewhere he thus condemns the mistaken psychology which dominates economics: "Political economy suffered hardly less from the crude nature of the psychological assumption from which it professed to deduce the explanation of its facts, and its prescriptions for economic legislation. It would be a libel not altogether devoid of truth to say that the classical political economy was a tissue of false conclusions drawn from false psychological assumptions". Since the publication of McDougall's *Social Psychology* and of the works of Veblen and Thorndike, Wallas, Parmelee and Lippmann, the rôle of instincts in human evolution is receiving emphasis and recognition, but psychologists are by no means unanimous not only as regards the exact nature of man's instincts, but also with regard to their number or classification. Professor Loeb has connected animal instincts with "tropisms" of organic matter; this may lead to a theory of social tropisms with reference to a given environment and may explain modes and varieties of social behaviour under different environmental conditions. As Mitchell, one of the pioneers in the study of economic behaviourism,¹ observes: "Studies of tropisms, reflexes, instincts and intelligence; of the relations between an individual's original and acquired capacities; of the cultural

¹ "Human Behaviour and Economics," *Quarterly Journal of Economics*, vol. xxix. Veblen's books are most remarkable. The criticisms by Patten, Fisher, Fetter and J. M. Clark are also noteworthy. Carleton R. Parker, in his "Motives in Economic Life," *Proceedings, American Economic Association*, December, 1917, gives an inventory of the instinct stimuli to economic activity. Ordway Tead's *Instincts in Industry* is a useful study of occupational psychology. Eddie's *Principles of the New Economics*, published after this chapter had been written, contains a brief summary of economic incentives in the light of modern psychology.

rôles played by racial endowments and social institutions, are vastly more significant for economics than classifications of conscious states, investigations of the special senses, and disquisitions on the relations between soul and body". From the classification of instincts and impulses sociologists have proceeded to show the relations of specific social behaviour. McDougall's list is as follows :

Fear with its impulse to flee (or more generally to escape).

Disgust with its impulse of repulsion.

Curiosity.

Anger with its impulse to fight.

Self-assertion.

Submission.

The parental instinct with its emotion of tenderness and its impulse to protect, etc.

The reproductive instinct.

Hunger.

The gregarious instinct.

The collecting or acquisitive instinct.

The instinct of construction.

" A number of minor instincts, such as those that prompt to crawling and walking."

" Some general or non-specific inner tendencies," *viz.*, the tendency to imitate, the tendency to reproduce in ourselves an emotion which we see another expressing, the tendency to receive suggestions (suggestibility), the tendency to play, the tendency to form habits and to prefer the familiar and avoid the unfamiliar.

Instincts the Basis of Values.

It is true that the list may perhaps require revision, but it is obvious that each such tendency has a well-defined emotion, as an integral part of itself¹. Modern researches are tending to replace an inventory of instincts as mythical potencies by perfectly identifiable and demonstrable bonds of sets of habits or arrangements and conditions of man's

¹ Compare Thorndike's list.

neurones and perfectly identified situations and responses. It is now recognized also that in human behaviour the different instincts are found fused with one another, though one of these may dominate and give its trend and direction. One or more of these appears in the fore-consciousness while the others remain latent and seek fulfilment through the former. The question for us is how one of these instinct groups may be distinguishable from others as specifically economic. In the complex effort of man to satisfy his natural instincts and instinctive derivatives he finds that he has to face the limitations set by the physical world. This fact of limitation for himself in accordance with the degree of its rigour sets up a scale of values, which is the basis of all later and developed economic values. For instance, the comparative scarcity of the different gifts of nature is the cause of the first gradation of economic values. But these values are transformed into full-fledged economic values when they are the felt needs of a herd or community. In other words, the individual instinct acquires specific economic significance only when it coalesces and corresponds to the similar behaviour of the herd. The pleasure that is experienced by the individual when he eats fruits, collects shells or makes a bow and arrow in a solitary island, and a host of other pleasurable experiences, more or less analogous, which have no connection with the group, are outside the circle of economics. Thus the forces and forms of nature are of interest to economics in proportion to the immediacy of their connection with restricted social use. When these are limited in supply, and, serving as stimuli upon the herd, induce appropriate reactions thereto that are fairly uniform among the members of the herd and ultimately settle into uniform habits, we are introduced into economic phenomena, because all its members cannot have equal or similar satisfaction from similar behaviour at the same time and place. Indeed, it is the constant limitation set by nature on individual behaviour, which is superimposed upon by the herd behaviour, that gives the root factors in the determination of economic value. Thus nature sets a limit to the amount of food supply available, and all the members of a group desire the same

quality of food. Accordingly the effort of the individual for food-seeking is invested with an economic significance. Nests and dwellings, feeding and hunting grounds, property and coins, are limited in supply, while their appropriation is encouraged by herd behaviour. Thus the acquisitive instinct partakes of an economic interest. The physical limitations restrict the materials of art and construction, while society stimulates construction in a particular style or in a given set of materials. Hence arises the economic importance of the particular impulse to construction. The impulse of self-assertion comes to possess an economic import, and the behaviour of the organizer becomes economic because the capacity for representing in one's own consciousness the probable reaction of the herd to one's own scheme in detail is found in unequal degrees among different members of the herd. Even sex has an economic significance. Nature establishes a disparity between the proportions of sexes, and society restricts the field of marriage or lays down rules of legitimate sex-satisfaction. There thus arises the institution of marriage by purchase, etc., which assumes varied guises in civilized society. Similarly, any other instinct, which has the same trend as a similar instinct of the group has and yet the fulfilment of which is restricted by the physical world or indirectly by the herd standards, gives rise to economic phenomena. Again, the instincts of the group may be unconscious, preceding conscious action, or they may be acquired complexes which both precede and arise from it. Indeed, the modern students of instincts and the Freudians have gone a long way towards suggesting how important are the unconscious mechanical backgrounds in the process of developing and organizing social (and economic) relations: the backgrounds by reason of which individuals are sensitive to the presence, real and imagined, of other people; to conventions and customs; to fashions; to the standard of life and comfort; to prestige, etc.¹ These have been entirely ignored by the classical school of economists. Not only are the unconscious herd complexes

¹ See Gault: "The Standpoint of Social Psychology," *Journal of Abnormal Psychology and Social Psychology*, vol. xvi., p. 42.

or acquired predispositions ignored by them, but in conscious socio-psychic phenomena they do not see the fusion of instincts, which are in juxtaposition with one another, in all activities of economic interest. A further inadequacy of the psychology of the classical school thus arises from the over-emphasis of the food-seeking instinct and its negative, the fear of loss, and setting up the herd as always antagonistic to the so-called rational egoism of the individual. Thus competition becomes the fundamental key to the economic process when the herd and individual behaviour is conceived as perpetually incompatible. The new psychology does not admit of this conflict and regards the herd as setting up standards or values and giving direction to individual behaviour which in economic as in other fields is not wholly the result of individual introspection, but also arises out of complexes and dispositions having their grounding in herd life and solidarity. It regards wealth as the creation of the group mind, or the herd mind, an outcome of an awareness of stimuli and fairly uniform reactions among the herd caused by the forces and forms of physical environment when these reactions have to face the limitations imposed by the environment. It accordingly recognizes not the economic man but the economic group as the main centre of enquiry and introduces economics to social rather than to personal psychology which is undoubtedly the more precise way of orienting behaviourism. The economic man of the classical school is directed by his inner tendency to avoid loss and seek gain, so that the end of economic activity is to secure the maximum gain at the minimum of pain¹. Modern functional psychology, as we have seen, has resolved these classical economic motives into a number of impulses of different sorts and shorn them of their intellectual or rational basis. It

¹ Even Wagner, whose name is ever to be associated with the Historical School, classifies human motives into egoistic and non-egoistic, subdividing the former as follows: first, the desire of wealth and the dread of want (poverty); second, fear of punishment and hopes of reward; third, love of approbation and of power; and fourth, wish for something to do—what, in the phrase of Veblen, would amount to instinct of workmanship. (*Outlines of Political Economy*.)

has laid bare the falsity of the classical hypothesis of "enlightened self-interest" which, indeed, cannot explain the behaviour of man, rooted as it is in his unlearned original equipment of instincts and capacities.

Hunger Instinct in Economic Manifestation.

Let us now make a detailed survey of the economic manifestation of instincts. Chief among the instincts is hunger, or the food-getting drive. Stanley Hall observes: "Studies of the 'conditional reflex' suggest to us what the very position of the senses near the entrance to the alimentary canal (because all of them were originally food-finders and testers) long taught in biology, that a large part of not only animal but of human activity consists in the quest for and provision of adequate food-supply. Not only do men, as Napoleon said, fight on their stomach, but courage, perseverance, temperance and even public sentiment and opinion depend largely on the normality of nutritive processes."

The Russian school of psychologists are interpreting the higher psychic powers of man on a metabolic basis. The home and hearth lose much of their attraction if the table there spread is not adapted to make for growth or restoration of tissue lost by activity. Hence the well-known significance of all sumptuary laws and regulations. Incipient starvation has played an important, if not the chief, rôle in all the great migrations of insects, fish, birds, higher mammals, and men. Among the bees, the crowded condition of the brood chamber is the chief factor in producing the swarm fever which leads to annual migration. When thousands of cells in the combs contain honey, pollen, sealed brood, larvæ and eggs, thus restricting the laying of eggs, the bees raise a number of queen cells, in each of which the queen lays an egg. In a few days, these cells are sealed over and a swarm of from fifteen to twenty-five thousand bees fill themselves with honey and fly away, headed by the queen, to establish a new colony. The westward sweep over southern Europe of Huns, Vandals, and other wild tribes from western and southern Asia is now known to have been caused by the psychological upset, due to climatic

changes attending the desiccation of a great internal sea, that made waste and arid spaces that had once been fertile and capable of supporting a vast population¹. Animal and human communities endeavour to secure a stable food supply, and much of animal and social evolution can be explained not merely by association or aggregation, but also by separation as well as conflict,—activities connected with a sufficient or insufficient food supply. In Parmelee's judgment, the distribution of food-supply is for every species also an important factor in determining the extent to which their life is to be social. Species whose food is scanty and scattered are forced to live more or less solitary lives. Predatory animals, also, such as the mammals, birds and insects of prey, are likely to be solitary in their habits, because hunting usually can be carried on best alone. Vegetarian species, on the other hand, are likely to be social, because their food is usually abundant and is concentrated more or less in places where conditions are favourable for its growth². Under the conditions of modern life the hunting responses survive in teasing, bullying or cruelty which are thus in part the results of one of nature's means of providing self and family with food: and what grew up as a pillar of human self-support has become so extravagant a luxury as to be almost a vice³. Some psychologists think that tendencies to seek particular objects of food as food and to capture them by specialized sets of movements are also original in men. The food-getting impulse is directly connected not merely with the forms of labour necessary to provide stable sustenance, and historically with hunting, pastoral, agricultural and manufacturing stages of economic life, but also with modern movements of population, expansions, migrations, international trade and the like. As organized by races into definite policies and programmes the food-getting impulse lies behind the economic causes of

¹ See Huntington: *The Pulse of Asia*.

² Parmelee: *The Science of Human Behaviour*, p. 345; cf. also Herbert Spencer: *Principles of Psychology*.

³ Thorndike: *Educational Psychology*, vol. i., "The Original Nature of Man," p. 53.

modern wars and indirectly behind the conflicts of rival imperialisms.

Work Instinct : Old and New Views.

Older economists made much also of men's natural aversion from labour. Jevons, for instance, conceived of labour as any exertion of body or mind with a view to something other than the pleasure directly derived from it. Labour, the economist asserts, is a suffering endured only because it prevents the greater suffering of lacking what the wages or profits would have bought. Labour laws, labour disputes (at least on the surface), and welfare schemes for labourers reflect and in the main confirm this view. Modern psychologists recognize that there is unquestionably in man, and particularly in civilized man, an instinct to work under certain conditions or stimuli. Biologically speaking also, man needs and must work. The instinct to work, though primarily connected with the obtaining of food and with bodily nutrition, is something which must be taken into account in all economic theory¹. Wages and profits, Thorndike points out, are rarely the only reward for labour. Still more are paid in part by the approval their skill and achievements receive. Some are paid in part by the sociability of the workers or the friendliness of the boss. In fact, almost every fundamental human appetite may be gratified to some extent by productive labour. The evil of work to the worker is not only that he has to work so long for so little, but also that he may have to strain his powers at work for which he is not fit, submit to rule that is humiliating, lose caste in his world, and in general be thwarted in the fundamental impulses of his nature². Veblen has emphasized the significance of the instinct of workmanship and pointed out that labour is irksome when this instinct is denied gratification (he uses the existence of this instinct as the basis for his doctrine of human productive labour). Dr. Marshall says : " A large part of the demand for the most highly skilled professional services and the best

¹ Ellwood : *Sociology in its Psychological Aspects*, p. 212.

² Thorndike : " The Psychology of Labour," in *Harper's Magazine*.

work of the mechanical artisan, arises from the delight that people have in the training of their own faculties, and in exercising them by the aid of the most delicately adjustable and responsive implements. Even in mechanical production, discipline and management become easier when the work appeals to this instinct." Loeb declares : " One of the most important instincts is usually not recognized as such, *viz.*, the instinct of workmanship. Lawyers, criminologists and philosophers frequently imagine that only want makes man work. This is an erroneous view." Indeed, art and craftsmanship originate in the transcending of the mere economic motive to work and industry may be embellished by art, or the art can flower independently as the creative instinct obtains a more or less adequate satisfaction. Evidence of this instinct is seen in the nest-building propensities of animals, birds and primitive men and in the crude drawings and mud apple-pies of children which correspond to primitive art and architecture. Read observes : " The constructive impulse was called into activity in man especially in the making of weapons and tools, and became an absorbing passion ; so that a savage (often accused of being incapable of prolonged attention !) will sit for days working at a spear or an axe." It is more probable that repairing and making spears, etc., were the work of women. The primitive women who remained at their ease while the men went out for the chase were the first to make tentatives towards acts which may be regarded as originating art and industry. Mason, indeed, thinks that most of the primitive industrial inventions were made by women in whom the instinct of workmanship early developed in greater strength. Many children from about the sixth year come under the fascination of this instinct. This is a necessary preparation for all the achievements of civilized life. Yet nowhere is this instinct more neglected than in economics, whose fundamental postulate is that want creates activity.

Co-operative production, when it does not address itself exclusively to the ideal of profit-sharing, insists upon the need of a more liberal expression of this instinct which will lessen

the costs of production to society by diminishing the apathy to labour induced by impersonal production. Industrialism at present damps zeal in the worker, who feels no "interest" in work, not only because he is an automaton in a complicated system of wheels within wheels which he does not understand, but also because the demand is for output, not for quality. The demand for excellence in work adds very much to its zest. This is seen at its best in artistic handicrafts. The instinct to labour is turned to account not merely in all socialistic schemes, but also in prison reform and poor law administration. Constructive instincts are recognized and appealed to also in the movements for the revival of arts and handicrafts, co-operative production and the democratic control of industry, all of which aim at the release of normal feelings inhibited by modern industry. Collective management may lessen to some extent the burden of industrial labour but the machine-tender will be the machine-tender still, producing goods of a dull, uniform pattern. Kirkpatrick and others think that there is an original specific tendency to adorn one's body. Marshall declares that the art impulse, which is a blind impulse leading men to create with little or no notion of the end they have in view, is a common heritage for all members of our race. These specific tendencies, which may all be comprehended under one word, manipulation, to signify the tendency to make certain hand and arm movements, has been at the root of the use of tools and implements, writing, drawing, art and the bulk of modern skilled occupations¹. It is very significant that socialism, syndicalism, and industrial partnership alike fail to give due recognition to the instinct of manipulation. None of the schemes of economic reform thus touch the root problem: *viz.*, the industrial system's repression of the individual workman's instinct of manipulation. The aim at least should be the diminution of monotony and increase of variety in occupation, which will mitigate, though it cannot cure, the evils inherent in large-scale standardized production.

¹ Cf. Thorndike, p. 138.

Machines v. Men.

Trade union leaders, on the contrary, now regard the matter without misgivings. They assert that repetitious work can never be rendered truly interesting. Happiness, accordingly, must be found outside work. Consequently, they contend that hours should be shortened so that leisure may exist, and wages should be raised so that leisure may be enjoyed. That idea is in itself a child of the machine age. So far as man can now see there is in truth no prospect of a change from repetitious labour. The most productive factories are those in which standardization is furthest advanced. "In the textile industry, for example, the rate of production is determined by the speed of machines. It is impossible for the workers tending the separate operations to influence the rate. Human beings are subordinated not immediately to the will of other men—although, of course, some human will decides the rate at which the engines move—but to the motion of machinery. That this has deleterious effects upon the body as well as upon the spirit of man seems probable from the researches. The rhythm of such machines as lathes in certain operations appears, furthermore, to drive workers onward regardless of the accumulating poisons of fatigue, and regardless even of their ability in some such cases to alter the speed of the machine."¹ On the other hand, it is a curious and significant fact of modern industrialism that the craftsmen of to-day are very largely men whose trades have not been seriously affected by the introduction of machinery, and that it is these handicraft workers with their constructiveness and instinct of manipulation satisfied who compose the backbone of organized labour. Thus the building trades workers have nearly the same skill as that attained by their forefathers, and the building trades workers are the most powerfully unionized. Other groups which have obtained great power are chiefly those who under machine conditions have still been able to acquire skill and get legitimate satisfaction of the instinct of manipulation. The railroad brotherhoods

¹ Chenery: *Industry and Human Welfare*, pp. 152-3.

are among the most potent labour organizations in the country. The strength of the railroad unions is to be found in the fact that locomotive engineers and trainmen are possessed of a peculiar skill which is not quickly imparted and which is not widely distributed. The miners are another instance of men securing skill and solidarity under new conditions. But as a rule the factory system has brought but little joy or dignity to workers and has often led from the standpoint of craftsmanship as well as from that of reward a striking degradation of labour. Guild-Socialism with its decentralization of large-scale industry and its production in small groups as well as the arts and crafts system, may restore something of the old quality and dignity of labour. But the kind of pleasure in work of which William Morris was the prophet remains as yet a distant though a fair vision.

“When will they see to this and help to make men of us all by insisting upon this most weighty piece of manners ; so that we may adorn life with the pleasure of cheerfully *buying* goods at their due price ; with the pleasure of *selling* goods that we could be proud of both for fair price and fair workmanship ; with the pleasure of working soundly and without haste at *making goods* that we should be proud of?—much the greatest pleasure of the three is the last, such a pleasure as, I think, the world has none like it.” Perhaps without the realization of this ideal the divorce between production and personal values cannot be bridged.

Storing Instinct : Origins of Property and Exploitation.

The two essential conditions of modern industrial life are private property and competition, both of which are rooted in a native impulse. The collecting or acquisitive instincts have been closely associated with the food-getting impulse, and later have extended to the collecting of economic goods. Biologists point out that it is among insects that we find an inclined plane of acquisitive activities that lead eventually to the climax illustrated by hive-bees and some of the ants. The elaborate storing in the beehives, carried to abnormal exuberance under man's domesticating tutelage, is correlated

with surviving the winter, *i.e.*, with permanence, and with the survival of the mothers after the adolescence of their offspring, *i.e.*, with the possibility of economic tradition. The transition from purely domestic storing to social storing illustrated by the bees on the instinctive level, is closely paralleled by what has happened in mankind on the intelligent level. The beaver villages with their dam, their circular lodges with a single entrance, contain a residential chamber and a room for common provisions. Common nests, family property or tribal property analogous to the long houses of savage clans, exist among rooks, jackdaws, swallows, etc. They seek their food in common, and in common they regain their nightly resting-place. Their nests are intended for courtship, for sheltering the eggs and young and for laying up provisions.

Thomson observes: "In man the storing instinct is far less feeble than in the animal kingdom. It is possible that the habit of saving and storing was illustrated from generation to generation by a domestic tradition which has gradually become enfeebled as industrial life, facilities of transport and communal storage made man in great measure independent of local and temporary scarcity."

Indeed, the provision that many insects make for their yet unborn young is one of the most mystifying manifestations of their mentality, for it seems at first glance to betray an almost superhuman intelligence. It is so mystifying because no insect can possibly foresee the wants of its immediate progeny. It must be remembered that the eggs laid by insects do not when they hatch give birth to winged insects, but to grubs or caterpillars which resemble worms far more than they resemble butterflies or wasps or beetles. And the grubs or caterpillars feed on food to which their winged parents are generally strangers and which is stored for them with infinite trouble and ingenuity¹.

Carveth Read also observes: "Homespun prudence belongs, in our ancestry, to a more recent stratum of motives: we see it as a blind instinct in squirrels and beavers, a quasi-instinctive propensity in dogs and wolves (who hide food that

¹ Bouvier: *The Psychic Life of Insects*.

they cannot immediately devour) ; but it is not known in any anthropoid, and is acquired at some stage by some human races—not by all ; for it is not found in many extant savages.”¹

Letourneau has shown that animals not only seize and share food but also sometimes have their feeding ground, the boundaries of which are zealously defended. Indeed, the possession of a given territory by many animals and birds gives us the rudiments of the origin of property. The intelligent animals who are sometimes architects, sometimes agriculturists, sometimes cattle-keepers—that is to say, who are compelled to do hard work—could not fail to invent slavery. Ants, for instance, have done so. The claim to property is instinctive in many animals—claim to a certain territory, or to a nest, or lair, or mate. Each early human pack probably claimed a certain hunting range ; and each family its lair, which it guarded, as our domestic dog guards the house. As weapons or other implements, charms or ornaments, came into use, the attitude towards the territory or lair will have been extended to include them ; for it seems to be instinctive even in lower primates. Certain camping, feeding or hunting grounds are similarly claimed by savage tribes for their exclusive enjoyment. Amongst animals and insects nothing also is commoner than predatory raids ; ants practise military marauding on a large scale, while bees live upon petty larcenies committed individually at the expense of foreign hives. Similarly, if we look back upon the history of man, we find him obtaining his sustenance by robbery rather than work. Exploitation of one social group by another, of the female by the male sex, of the slave by the master, of the serf by the noble, had begun with economic life itself. On account of the invention of tools, implements and machinery and the use of money, man acquires more extended powers over his associates than in the kingdom of animals. Though examples of exploitation, due to advantage of the possession and use of hoarded provision, are by no means rare in the insect and animal world, the acerbities of

¹ Read, Carveth : “ On the Differentiation of the Human from the Anthropoid Mind,” *The British Journal of Psychology*, June, 1917.

the collecting instinct fed by the desire for mastery and exploitation, are manifest mostly in the human kingdom. The evolution of the forms of property has been traced, indeed, by many writers. Monkeys and birds sometimes hoard things of no specific value to them. The magpie hides and treasures up certain ornamental luxuries without apparent use, but which it seems to value highly. Berries, seeds, flowers, pebbles, shells and suchlike are carefully treasured by various species of birds. Apart from laying up provisions, claiming ownership of a certain ascertained territory, or a natural or artificial nest or dwelling for safe retreat, common amongst animals, it is the acquisitive instinct shown in the hoarding of things of no special use which attests the close relation between man and the rest of the animal kingdom¹. Man's hobby for the collection of rare stamps, coins, books, autographs, pens, picture-postals, cigar-tags, shoes, orchids, etc., is a similar tendency. The monopoly prices they sometimes command have often no relation to utility in a limited sense, and were hence early regarded as exceptions to the utility-theory of price. With the acquisition of land and its restricted use as private property, the problem of distribution has arisen. Rights in land have been more emphasized in North temperate countries than in the tropics, where fertile land is more abundant and the struggle for existence less severe.

Communal and Individualistic Industries.

Differences in environmental conditions, or stages of civilization, exhibit difference of emphasis of acquisitive or communal impulses. The nomadic element in the population strengthens communal impulses, as in Eastern Russia and Siberia; so also do the varied practices of mutual aid and neighbourly service in the village commune in regions where agriculture is dependent upon irrigation and team work. The communal holding of lands in the joint family and the village community in India, as well as the implied socialisms and humanisms, are characteristic. No less significant are the common ownership of meadows and irrigation channels, the

¹ C. F. Letourneau : *Property*, chapter i.

common upkeep of temples, schools, roads and bridges, or the common management of low rice lands in the Indian village system. Each crop, again, has its own bearing on communal instincts and habits. In the chestnut belt of France, for example, the main task is not the tending of the trees, but the gathering of the nuts. Since there is here no opening for the exercise of superior diligence, skill or foresight, the nuts are gathered in common. Young and old, women and men join in the task, and the nuts collected are a common stock for the whole family. Seeing there are no advantages in going apart, there is no tendency for the married son to set up for himself. On the other hand, the culture of the vine is individualistic. Nothing is gained by co-operation, so that the married son sets up his household as soon as possible and there goes on a constant division and sub-division of vineyard properties. The vine, therefore, does not nourish the sentiment of solidarity¹. A great deal of benefit arises from co-operation in rice and sugar-cane cultivation, which therefore favours communal instincts and habits. Dense populations in China and India grow the wet variety of rice which must be grown by irrigation. The irrigated plain is divided by low banks into small rice fields, each of which by great labour has to be so levelled that the water may be of uniform and proper depth for rice-growing. This necessitates work in common and encourages communal methods in agriculture. In the treatment of the lowland rice, a village or a group of villages join in the task of flooding it and draining off the water during the early period of its growth, and no village servant is more ubiquitous than the irrigation man, the employee in common of the whole village, who is to be found in India, in central Asia or in Burma. Any person who violates the common interest is at once marked out as a social rebel and a common enemy of agriculture. In Mysore villages the common waterman regulates the supply of water in every possible way, and in the season of rains might be said to hold the safety-valves of the tanks and other reservoirs

¹ Demolins : *Les Français d' Aujourd'hui*, quoted by Ross in *Principles of Sociology*.

in his hands. He actually holds the *tuba*, or the key of the channel pipe, and distributes the water to the fields of all persons in just proportions, so that the crops may not be dried up. He inspects the *bunds*, channels and sluices of tanks, and, if he find any irregularity, he reports immediately to the headman. He knows from his practical experience and personal observation the amount of water required by a *ryot* for the production of his crops ; when the water diminishes he renders account thereof to the managers, lest he should be suspected of disposing of it clandestinely. In a village in the Trichinopoly district, I found a village servant, called the *niranikan*, who is paid at each harvest by every villager. He clears the silt at the head sluice, directs the water into the main irrigation channels and blocks the channel head when an excess of flow is threatened. Thus is ensured a uniform distribution of water for the rice fields. There also arises common ownership in tanks, irrigation channels or other reservoirs to ensure a uniform and equitable supply of water. The cultivation of wheat, on the contrary, is individualistic. We have here some of the conditions that enable us to appreciate the great differences in the endowment of instincts of the people of the rice-growing and of the wheat-growing regions. It is amongst the rice-growing peoples of the East that we find communal habits and institutions at their best. Wheat cultivation and fruit industry in ancient Italy throw a suggestion to explain that individualism which was the foundation of the Roman Law. The English common law underwent significant modification in those regions of the United States which depend upon irrigation agriculture.

Topography and Property.

The configuration of the soil also modifies the possessive instincts and reacts upon the concept and institution of property. Jan St. Lewinski has shown that in Switzerland, Tyrol, and the Bavarian Alps we observe very clearly this dependence of forms of property on topographical conditions. Among the Scandinavians, the Norwegians living in monotonous country settle in *gaards* or separate homesteads, the Danes

in *hys* or villages. In India we find the village community in the plain country ; at the same time we do not find it on the Himalayan hillsides. Baden Powell observes : " The village community is found in India among the great races, which were certainly antecedent to the Hindus, and which still survive (with their institutions) in widely separated parts of the country. We find it everywhere, especially in the plain country, where circumstances favour it ; at the same time, we do not find it in other places—on the Himalayan hillsides, on the West coast (Kanara and Malabar) and in the dry regions of the Southern Panjab. But over the greater part of India aggregates of cultivators forming regular villages are the rule, the other cases are the exception." ¹ Whatever it be, we see very clearly that the relation of nature towards human want, a factor investigated carefully by geographers but quite neglected by economic historians, has an important rôle in economic evolution ².

Clash of Private and Communal Instincts.

In China and India, wherever the present commercial practice has developed, and in portions of Africa, the concept and institution of communal property are incompatible with the forms and rights of private property which the Romano-Teutonic people have evolved. Thus the overmastering desire for acquisition and possession not only has infringed the immemorial rights in land of the backward races and superimposed upon them new conceptions of absolute private rights in land, but also has hampered the smooth and harmonious evolution of their own social organization. Roman Law and Frankish customaries have unduly emphasized the acquisitive impulses in the forms and rights of private property, and the socialistic criticism of the present system of distribution is based on the recognition of the need of correcting the acerbities and needless exaggerations of the acquisitive tradition. On the other hand, the anarchism of Kropotkin and Tolstoy and the communism of the Bolsheviki are based

¹ *Land Systems of British India*, p. 106.

² *The Origin of Property*, pp. 64, 65.

on the joint ownership in the Russian village community and the original and essential bedrock of social co-operation among Slavonic peoples. They violate, however, the instincts for individual liberty and for acquisition or possession and are not yet suited to the Western European social tradition. Thus the movement of economic reform both in Western Europe and America, has been not to abolish competition, or to establish communism, but to check the excesses of the acquisitive impulse, of the instincts of gain and greed in private capitalism. In America man's instincts for the ownership of land are satisfied, while the Western European nations have their agrarian programme at home and their colonial policy abroad as a solvent of the social menace of the landless proletariat. The repressed instincts of the homeless labourer feed the fire of revolution ; thus a rigorous land policy also has accompanied the efforts to check the excesses of private capitalism. The fact of ownership not only gives a sense of personal worth, independence, or freedom of thought and action, of having a place and function in the social order, by satisfying a perennial acquisitive disposition ; but also, what is perhaps yet more important, it is a safeguard against a sense of the injustice of an industrial system that exacts a man's best endeavour for a bare subsistence ; while, if he sees no chance or hope of ever getting ahead, despair sooner or later supervenes—and desperation is the most dangerous and inflammable of psychic states. Thus the inhibition or emphasis of appropriative and communal instincts has sown the seeds of social revolution under different social conditions in different countries ¹.

¹ Hall : *Morale*, p. 207.

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CHAPTER V

THE MISFITS OF HUMAN NATURE

Instincts in Social Life.

We have noted a few elemental instincts and impulses which govern the essential conditions of economic life and structure and shall now refer to other impulses connected with specific phases of economic behaviour. Some of these instincts harmonize with the environment, others do not fit in. Thus internal satisfaction as well as conflict are both manifest in society. Professor Carver asks: "Human nature is, within limits, adaptable and can without harm adjust itself to many non-psychological conditions whenever there is a mechanical or economic advantage in doing so. Shall we school and discipline ourselves into conformity with the conditions of successful living, or shall we follow our own proclivities and insist that it is an unjust world, that does not bestow success upon us?" Now, the whole history of social development exhibits a two-fold tendency. In the first place, there is the emphasis of discipline and regimentation. Secondly, the institutions are adapted to belligerent instincts and emotions. Sometimes the incompatibility and psychic revolt are sought to be avoided by a sort of rationalization which is in the nature of hypocrisy and a natural, unconscious way of restoring mental equilibrium. But more often the instincts and emotions are diverted into other channels where they may have satisfactory expression while the less pliable, dangerous urges are stamped out. Public opinion and standards supply the moral and intellectual moulds, the relatively fixed forms of social evolution so necessary for that discipline with which all education begins. Thus, the economic expression of

instincts is regulated at a lower level by a system of rewards and punishments in the institutional environment and at a higher by the process of socializing and rationalizing the individual's instinctive equipment accomplished by social contacts on the one hand, and his own ethical effort on the other. Yet economic life is full of instances of conflict between instinctive satisfaction and the ever-pressing necessity of adjusting oneself to one's fellows. Sometimes the impulses themselves with which other instincts may be in fusion encourage a class, group or institutional self which is in discord with other institutional selves or with the ethical norms which are common to all the various institutional selves, or again, with the intimate individual self. Thus, the same instinct which in fusion with other instincts may become a powerful social binder becomes itself a cause of conflict. Therefore, it depends entirely upon standards set up by public opinion or by institutions whether an instinct moulds individuals or groups and directs them along constructive or along destructive channels of social endeavour. The instinct of self-display, for instance, expresses itself in modern industrial society in love of ostentation of all sorts, and of "conspicuous luxury and waste". Thorndike observes: "The elaborate paraphernalia and rites of fashion in clothes exist chiefly by virtue of their value as means of securing diffuse notice and approval. The primitive sex display is now a minor cause; women obviously dress for other women's eyes. Much the same is true of subservience to fashions in furniture, food, manners, morals and religion." The demand for conventional necessities of particular strata in society is based very largely upon the instinctive tendencies to display superiority in the form of economic goods which have led to no small rivalry of social groups¹. Self-display is the chief motive behind the diversification of wants; the standard of living becomes indispensable to self-respect. Thus, vanity enters into the inherited standard and places it on a firmer basis. It is found fused with many other instincts such as self-assertion and pugnacity, and lies behind competition or

¹ For the nature of conventionality see Ross : *Social Psychology*.

the drive of economic and social ambition, which creates classes and hierarchies in society. As a general thing, men imitate those whom they look up to as superior to themselves, but those who lead also follow. Veblen in the *Theory of the Leisure Class* has pointed out that vicarious consumption and conspicuous waste or the maintenance of a useless retinue in public prodigality which characterize their economic activities are due to their craving for objective approval from those below them. Thus this potent social control combines in elaborately complex feelings and institutions of man. Both in China and India the *élite* or aristocracy which set most of the examples and standards for the people have a traditional ideal of self-restraint, simplicity and sacrifice before them. Thus self-display is avoided in the unwritten rules of conduct, manners and fashion, and there arise those graceful manners, those characteristic refinements of courtesy which make smooth the rough places of life and add to the spontaneous social pleasures of the East. Here we find the folk psychology influencing economic activity by determining the examples and standards of consumption. In China the scholar has been taken as the model. If the sturdy coolie sports fan and sun umbrella it is not from effeminacy, but because the common people form themselves on the model of the *literati*. The ascendancy of the intellectuals has cast a kind of spell upon the active and combative impulses of the non-political races like the Chinese and the Indians ¹.

Instincts Governing Choice and Change.

The instinct of disgust is manifest when man reaches the limit of satisfaction in consumption. Disgust, with its impulse of repulsion, and joy, with the impulse of attraction, serve to co-ordinate and integrate man's choice of goods. The law of satiability and the law of equi-marginal returns, have been based by the marginal utility school on the operation of this impulse. These laws exhibit man's ever-changing relations to goods. As Thorndike says : " Man is now as civilized, rational and humane as he is because man in the past has changed

¹ Ross : *Principles of Sociology*, p. 368.

things into shapes more satisfying and changed parts of his own nature into traits more satisfying to man as a whole. Man is thus eternally altering himself to suit himself. His nature is not right in his own eyes. Only one thing in it, indeed, is unreservedly good, the power to make it better."

Social Instincts.

The gambling instinct expresses itself in the modern industrial world in speculation of various sorts, while cut-throat competition, dumping, etc., usually excite love of play, and the pugnacious instinct. The instinct of self-abasement is manifest in the tendency of all human groups to organize about a personal leader or authority, found not merely in political, social and economic organizations on a large scale, but also in the more common things of everyday life. Both in India and China, where "the craftsman who is not a guild member is as one exposed to the wintry blast without a coat, the deference of the member to guild authority is very great." Veblen observes: "Our standard of decency in expenditure, as in other ends of emulation, is set by the usage of those next above us in reputability, until in this way, especially in any community where class distinctions are somewhat vague, all canons of respectability and decency, and all standards of consumption, are traced back by insensible gradations to the pecuniary usages and habits of thought of the highest social and class—the wealthy leisure class." Fashions come from the superiors. Labour policy is dictated by popular leaders often recruited from the bourgeois class. Workingmen admire the true militant and labour leader, the hero in their struggles against the employing class. They detest the "scab", the deserter from their ranks in those struggles.

Militant Instincts.

The pugnacious instinct is the essence of war and conflict, though the economic motive also supervenes and gives direction to it. In domestic politics the division between labour and capital as two hostile camps, filling society with

hatred and opposition, is a manifestation of the militarization of economic life. The historical socialistic slogans such as "The emancipation of workingmen can only be accomplished by workingmen themselves", or "Workingmen of all countries unite", are the economic battle-cries and express the ethics of class struggle. Not merely in class war but also in economic competition with rival nations, in commercial offensives and policies of reciprocity and protection, is this drive manifest. Man has now realized that his fiercer qualities, his delight in bullying and killing fellow-men, is now a drag in his evolutionary advance. And to-day, after the European War, there is felt no greater need than that of mobilizing all the moral resources for the new militancy of peace. But the militarist bias yet remains. Thus the reconstruction movements of the day are seeking for the sweet reasonableness and mutual goodwill and sacrifice without which new relationships in economic and social life cannot be established.

Complex Social Instincts—Curiosity, Kinship.

More complex are those instincts which give rise to whole series of adjustments in economic life. Such, for instance, is curiosity, which is perhaps the earliest expression of the basal poetic instinct and is well developed in many animals. All educational systems, libraries, the press, science and even myth, gossip and espionage were evolved to satisfy this craving¹. Curiosity has been the original drive behind economic invention. It lies behind all improvements in the arts of production, fashions, crazes; its stimulation in the artisan's workshop hands down to posterity a living tradition of art and craftsmanship; while its repression is manifest not merely in conventional craft and stereotyped art, but also in larger degree in standardized, mechanical production. Another such instinct is the parental instinct, which gives stability to the family as the unit of economic life. In modern industrial society, it is significant in the demand for living wages as maintaining the family standard of subsistence and efficiency;

¹ Hall: *Morale*, p. 210.

and also, in its work outside the family, in philanthropy, the care for the old and incapable, the system of poor law and protection of women and children in factories and workshops ; in fact, behind all social and ameliorative activity. The parental instincts are resolvable into the possessive or appropriative instincts, which represent a constituent of the ego complex, and into the instincts of sympathy which represent a constituent of the herd complex. The former is manifest in the trail of the Roman *Imperium*, based as it was on the *Patria Potestas*. Whatever changes towards emancipation or individuation took place in Europe were the result of Christianity and the rise and growth of rationalism since the Renaissance and the Reformation which finally effected the divorce from the ancient parental, authoritative tradition. The latter is manifest in the continuity of the joint family in China and India, and of village communities and clans as families writ large, as also in the patriarchal origin and nature of Eastern kingship and state organization. The extraordinary power of the Chinese patriarch over the life and property of the members of his household till recently is similarly connected with the teachings of Confucius and with Buddhist dogmas relating to the doctrine of fatherhood. In India the joint family as the social unit never went into such extremes, and so the aberrations of the romantic family and the excessive rigidity of the religious-proprietary family have been avoided. Clan ties in China and to some extent caste ties in India mean so much that there are few duties more sacred than that of helping kinsmen. Among the Chinese the agnatic rural clan has great vitality. Clan ties are so strong that if a poor man cannot feed all his children he can get fellow-clansmen to adopt some of them. If times are dull in the city, there is no visible accumulation of unemployed, because the superfluous labourers scatter to their ancestral villages, there to live and work till better times come. The city merchant registers his boys in the ancestral temple of his clan, contributes to its upkeep, attends the yearly clan festival, and lets his children be reared in the ancestral village in order that they may cherish the old tie to the soil. Thus, unless

some calamity uproots the stock, the city families, even after the lapse of generations, retain a connection with the rural kindred. The constant stressing of filial duty as a virtue adds to the happiness of the old folk, which advantage far outweighs the inconvenience to the sons. Ross thus accounts for the fact why there are more smooth brows, calm eyes and care-free faces among old men in China than among old men in America: "Too often among us old age is clouded by the depressing sense of being shelved, or being a burden. Chinese ethics gives the parent more claim and lays upon the grown sons more duties than our ethics. . . . Coming on the up curve of life the duties are easy to bear, while coming on the down curve, these corresponding rights are a real solace. The solidarity of the family, clan, village community or guild, each of which is a field for the exercise of parental duty, has kept alive the civilizations of the East. The Easterner has been trained to get in line by contact with a struggle for existence so severe that he realizes that his group—family, clan, or guild—is indispensable to him. It alone will throw a life-line if his foot slips and he falls into the whirlpool."¹ The strong desire of the Easterner for the fixed home with its appurtenance of land has determined the agrarian distribution, while the family tradition conserved by parental authority has kept alive the domestic tradition of arts and handicrafts.

Sex Instinct and Its Repression.

The reproductive instinct has been much stressed by economists since Malthus formulated the law of population based on human fecundity. It has been the basis of classical theories of wages and rent. And, as we shall observe later, the sex instinct is much more complex and diverse in its operation and effects among different layers of population than the classical economists conceived, and, indeed, it is for this reason that the doctrine of neo-malthusianism and the modern theories of eugenics and eudemics assume significance in their bearings upon economic progress. Its suppression and con-

¹ Ross : *Principles of Sociology*, pp. 441-2.

sequent effects are seen in modern industrialism which holds apart the sexes. In the mill towns and industrial centres of India, for instance, the proportion of males to females is 2 to 1. There is less demand for female labour in general and in the mines in particular, and custom and public opinion also discourage woman's industrial work. We therefore witness vice arising out of the massing of married immigrant men into the congested slums of industrial cities and the condemning of some thousands of migratory labourers in the mines and plantations to single lives. In the tropical mines and plantations where the workers are the victims of an overwhelming sex repression, the sex perversion within the entire group is as developed and recognized as the well-known similar practice in prisons and reformatories. The danger is emphasized by the fact that here the sex instinct matures earlier, early marriages are universal, and emotional life is starved as soon as it commences. Sex interest in industrial life is seen in different types of salesmanship, in clothing shops, stores and restaurants where the beauty of the sales-lady is an established and demanded part of the purchase. An instance to the point in the East is the ubiquity of the betel-seller and the flower-girl, whose attractive appearance is a determining factor in the sale. In all these cases the exploitation of sex usually serves ends which are selfish and sinister rather than social and beautiful. Thus, we have as a result a hyper-sensitive concern for sex and all its demands which are met either by lewd music and burlesque show giving a partial emotional release, or by indiscriminate sex satisfaction¹. Indeed, the great and increasingly recognized importance of the period of adolescence in modern educational psychology and sociology demands a most careful handling of persons at this stage of life, at which many of the evils of maladjustment in the industrial, social and educational system begin. As a very large part of the industrial population in every country are adolescents and the retrogression of youths and girls engaged in industry affects the manhood and womanhood of the nation, the problem of industrial

¹ *Vide* Tead : *Instincts in Industry*, chapter iii.

psychology, which influences deeply the social question from different aspects, demands serious attention. In countries in the East, and especially in Japan, where the majority of the labourers are in the teens and there is a sharp and almost drastic segregation of the sexes by industry, the subject assumes a national importance. Parker's investigations into the class of casual labourers have shown that among the few millions of casual and migratory labourers, fully 90 per cent. are unmarried and have no normal sex life; that this sex repression contributes to unrest, discontent and labour difficulties generally; and that the thwarted energies may find a moral equivalent in forms of self-expression if opportunity is provided during work and leisure hours ¹.

Woman Labour and Satisfaction of Domestic Instincts.

A great deal may be expected in industrialism from the opening of subsidiary means of livelihood in connection with agriculture: arts and crafts which may give employment to woman- and child-labour, so that the domestic life which has been dispersed may be reinstated. This is all the more necessary since the evils of segregation are more manifest in the period of adolescence, which is generally the period from which factory life starts. In Stanley Hall's judgment, from the teens on the sexes must meet wholesomely. Each needs all the influence from the other to mature aright, especially from early adolescence well on into the age of full nubility. Working as well as other girls must have means, too, to deck themselves appropriately; for without this they easily lose all self-respect and are exposed to the greatest temptation. A best dress or suit, and occasionally a dressing up in it, are unquestionable factors of *moral* for both sexes. Every family must have also its home and be able to rear its children. Whatever thwarts philoprogenetic instincts is not only wasteful but also dangerous, for psycho-analysis has lately opened a vast new field here for both theory and practice. It has

¹ Parker: *The Casual Labourer*, chapters ii. and iii.

compelled us to regard almost everything connected with the transmission of the sacred torch of life in a new light, and has taught us how many of the diseases, not only of the individual but also of society, and in some sense particularly of industrial life, are due to derangements of the domestic life due to the partial repression and suppression of the erotic impulses. Wage scales need not be supplemented, perhaps, as they now sometimes are, by bonuses for babies; but such scales should always discriminate in favour of employees with families. It is necessary also to introduce a new morale, especially where mixed labour is employed in the factories. These should not be a field where the rules regulating the intercourse between the sexes are for the time being suspended¹. The workman's appreciation of good schools for his children make these an asset of growing importance in the labour market, while licentiousness in a community is an industrial disability. In Eastern countries like China, Japan and India, there is great stress on woman's clothes, toilet and ornaments as necessary for her self-respect, and on the special needs and claims of woman, when she is the wage-earner. The irradiation of the sex impulse into the higher cultural field is seen in rites, ceremonies, and social intercourse. Indeed, the idea of marriage as a sacrament and of woman as the mother of the race, the sublimations and spiritualizations of sex are seen best in the Far East. Nowhere, therefore, has the new industrialism in the East been in so much conflict with the old social ethics as in the field of the employment of woman labour in the mills.

Gregarious or Herd Instinct.

Most important, however, is the gregarious instinct which is connected with the huddling of animals for warmth, with the herd or horde, and tribal congregations, with family life and with co-ordinations in wider and wider groups or associations.² A number of individuals having similar mental

¹ See Stanley Hall : *Morale*.

² Social behaviour is treated in a forthcoming joint study, *The Mind in Society*, by Sen Gupta and Mukerjee.

patterns respond in the same manner. Thus group life is brought about. When impulses fail or come into conflict it is through purposive ideas that the group is formed. Man's ideas, feelings, modes of thought and behaviour are through and through determined by the group. Class allegiance illustrates this; in its exaggerations it is a menace to the solidarity of social life. It is also manifest in love of popular approval on which socialists rely as the incentive to productive activity in the absence of private property. Socialists, indeed, have the vision of a state of society in which laurel wreaths would be incentives to work rather than material emoluments. The instinct largely determines the form of recreations, festivities and ceremonies. Indeed, it is the root of no small part of the pleasure one finds in social gatherings, feasts, ceremonial games and entertainments. Le Bon discusses the sympathetic resonance in feeling and the excitement of concerted action in mobs or organized crowds. The crowd psychology is in its impulsive outburst applicable to the phenomena of economic crises, panics, bank failures, sudden rejection of foreign media of exchange, etc. The instinct of gregariousness is manifest also in the attraction that the city offers to the country population. Indeed the rural exodus, the effects of which are seen throughout the world, has its root in man's preference of the sympathetic resonance in the urban multitude for the insipid existence in the countryside. Even in India, where the population is characterized by settled habits, the labourers are sometimes so much enamoured of crowded life that they would change from mines to plantations in throngs instead of going back to the land and wholesome agricultural labour. In the city environment man feels that everything has conspired to thwart his wishes. He loses touch with nature and the mother earth and continually broods about what man has made of man. Coupled with this baulked disposition are the influence of the all-pervasive economic problem and fear of unemployment, the weakening of older moral and communal restraints and the desire to participate in the intense though unattainable pleasures of the rich, all of which contribute to lower the tone of city morale everywhere. Some

people find a fascination in country life, its joys and habits. Thus, in spite of the world-wide city-ward movement, some provinces in China and India are showing greater ruralization.

Instincts and Social Progress.

Such instincts as curiosity, or self-assertion, parental or sex instincts, the instincts of self-display and emulation and gregariousness, have served as aids to social progress and their guidance and control in modern life will make progress possible in the future. But whether the gregarious instinct shall lead to class or to social solidarity, whether the parental instinct shall seek fulfilment in domesticity and excessive family control or in social service, whether the instinct of self-assertion shall evoke conspicuous waste or solid achievement, depend upon education and the social heredity. Man's instincts have evolved slowly through ages under the operation of natural selection and are not yet sufficient to adapt him always to his fellows or to the social order. In Galton's judgment, "Man was barbarous but yesterday, and, therefore, it is not to be expected that the natural aptitude of his race should already have become moulded into accordance with his very recent advance. We men of the present centuries, are like animals suddenly transplanted among new circumstances of climate and of food. Our instincts fail us under the altered circumstances."¹

Discipline and Repression of Instincts.

Here, of course, lies the superiority of ancient civilizations like India and China where conduct follows automatically the line of control exercised by acquired habits and customs and the bending and training of native impulses through ages. It is for this reason that in the East we seldom meet with reversions to the instinctive level of activities, as seen in revolutions, wars and mob outbursts. Man's inborn restlessness, *wanderlust*, self-assertiveness, have here been bent

¹ *Hereditary Genius*, p. 337, quoted by Ward, *Pure Sociology*, pp. 449-50.

and sometimes even suppressed as in a degenerate asceticism, condemning comfort and pleasure and idealizing fasting, celibacy, solitude and poverty. Substitution, sublimation and diversion have been the Eastern method, especially in the discipline of the instincts of sex and ownership which has been the result of ages of careful study of the human mind, and its relation to social life. But repression in different guises has also appeared. Repression in every case leads to a loss of nervous energy accompanied by vague distress or unrest which may be followed by a sudden outburst. As Graham Wallas puts it, "if we live unstimulated, or to use a shorter term, we 'balk' any one of our main dispositions, curiosity, property, trial and error, sex and the rest, we produce in ourselves a state of nervous strain." This has been to some extent the fault of the East. On the other hand, in the West the repression of the creative or constructive and the partitive or distributive instinct has given wrong trend to social evolution, led to economic unrest as well as to poverty of the personality. Another result in the East has been that clan and caste groupings have brought about an easy adjustment of instincts to occupations which has preserved the harmony of economic life. The high standard of equitable dealings in Indian and Chinese villages are due to the superimposition of personal relationships upon economic intercourse, which therefore possesses a dignity and grace rarely met with in the Western countries.

Occupation and Instinct.

All modern occupations need to be studied from the point of view of instincts. Professor Ross regrets that no one has ever methodically dissected the occupations to determine how much we relish them from instinct, how much from transferred interest, and how much they go against our grain.¹ No doubt an investigator would discover startling contrasts. Children react to callings without heed to their pay or social grade, and the boy's native ambition to be a scout, a sleuth, a teamster or a locomotive engineer gives a clue to the reaction

¹ Ross : *Principles of Sociology*, p. 607.

of the primitive self. At the same time this self appears to be lynx-eyed in detecting in dull-looking situations material for thrills. The same golden make-believe that in childhood transforms playfellows into bears and Indians saves many of us in over-specialized callings from becoming mere automata. With most people the grind of business famishes the instincts, which therefore find play either in the craving for sports, recreation and gambling or in organic excesses, drink or vice. The discipline, the monotony and the meaninglessness of one minute fragment of a task, the dreary surroundings in industrial towns, make life more irksome than ever before it has been for free workers. The series—hunter, herdsman, husbandman, craftsman, artisan—constitutes a curve away from the instinctive which finds its terminus in the machine-tender with little in it to rouse the impulses of trial and error, curiosity or constructiveness. Nor are labour-saving devices much more useful. Professor Weeks says: "How strange it is that the passing years sap the romance of life as well as the beauty and how the new inventions—labour-saving devices, they call them and multipliers of wealth—have taken the colour, the creative zest and the novelty out of work, and left it a husk, a dry, mechanical grind, a cut-and-dried function of physical drudgery without a soul." The old commodity theory of labour determined by the blind forces of demand and supply is to-day replaced by the newer machine theory which is at present supported by the efficiency men. Thus the day's work is done under steady strain, the drudgery persists and is even aggravated, while human instincts and desires are thwarted. "Small wonder that people who scrape pig-bristles sixty hours a week and live in mean, dingy little houses, looking out across stretches of mud, cinders or car-tracks, should seek the muddy glow of saloon good-fellowship and drink to forget." Stanley Hall observes that "We all need to glow, tingle and feel life intensely now and then. We want our affective nature stirred to its nethermost depths. Our souls as well as our bodies are erethic and it seems as though our blood needed sometimes to be flushed with adrenalin. These second-

breath states and impulses need legitimate cultivation because thus only can the individual learn to draw upon his racial resources." Orgies of sex and drink are the easiest and commonest vents of the instinct to "life more and fuller" for which the heart pants and to find proper vicariates is one of the chief *considerata* of the morale of labour, as it is indeed of morale in other fields. The degenerate plebs of Rome ranked the demand for circuses beside that for bread¹. The Chinese hope for relief in opium-smoking from the mental depression produced by prodigious toil. The Philippine Opium Commission says: "What people on earth are so destitute of amusement as the Chinese, both rich and poor? There are no out-door games in China, or, indeed, any games except in a gambling sense. Absolute dullness and dreariness seem to prevail everywhere. As these two demons drive the Caucasian to drink, so they drive the Chinese to opium. As an individual may by habitual toil and attention to business become incapable of amusement, so a race of almost incredible antiquity, which has toiled for millenniums, may likewise reach a point in its development where the faculty of being amused has atrophied and disappeared, so that all that remains is the desire to spend leisure in placidity. And nothing contributes so much to this as opium."

Need of Wholesome Outlets for Instincts.

We must not forget, too, that the opium dens or ghettos are also the places where the Chinese meet their friends and are as important organs for the development of the social sense as the saloons and cafés in the West. Both in China and India, family and clan worship, guild festivity and village or town social activity give vent to the people's gregarious instinct in the union or collective action for the betterment of their condition. In the Indian villages the round of fasts and festivities throughout the year provides arousing and absorbing recreations and creates a demand for moderate, sedate pleasures. The periodical communal festivals, fasts and feasts, processions and pilgrimages into which the people can

¹ *Morale*, p. 208.

throw themselves with abandon serve not only as moral preventives and prophylactics, but also they make these very qualities more accessible to heredity. Many of the agricultural festivals are connected with seasonal changes and thus isolated farm life gains interest and zest, while nature-sensibility is encouraged in the East under the inspiration of many a folk song, communal dance, and village excursion and sport. In industrialism mechanical, uniform and uninteresting processes fail to provide the necessary spell of excitement. The touch with the mother earth gives greater scope for the play of instincts and emotions. It emphasizes man's inter-relations with the whole living world, cultivates a spirit of mutual dependence and forbearance. The doctrine of resignation that all agricultural communities develop is the sheet-anchor of conservatism in political and social vicissitudes, and of peaceful life for the individual who feels that he has a place in a long scheme of things with which he lives in harmony. This is why the industrial West is going back to the land and finding it the basis of eu-psychic reconstruction. For the expunging of the aridity and emptiness of urban life and the renewal of deeper social relationships and obligations, land adjustment stands in the forefront of all economic reform.

Environment and Instinct—City and Country.

Man is yet, by nature and instinct, a villager ; and, in spite of the clamant demands of Progress, he instinctively protests against the dull and dreary routine, the artificiality and the emptiness of urban life. The hope of being able to live in the country is the mainspring of many city lives, as it is of country people to retire to the city. Many families spend their summer in the country and maintain their interest in outdoor life and farming. Families that break the rural contacts are at greater disadvantage in the city and the sooner obliged to choose between the suburbs and the slums. As a net result of urban striving, the cities are richer but the race poorer and less able to maintain the structure of civilization. It should not surprise us that hygienic surveys are

showing larger percentages of deformed or abnormal children in country schools than in neighbouring cities¹. Occupational disease, migration and urbanization have their marked effects on the deterioration of stock. City dwellers are found on the whole to be shorter in stature, lighter in weight, and show lower birth-rate and higher death-rate than dwellers in the country. Perhaps in the near future we may be required to check the growth of cities, and cultivate a taste for country life by the re-education or sublimation of such dispositions as nature-sensibility and attachment to the hearth and the soil. This is only one instance of the need for the education of instincts in adaptation to changed features of the environment.

Economics and the Direction of Instincts.

The overthrow of psychological hedonism by the new functional psychology which has emphasized that what man desires is achievement more than wealth also demands a restatement of the old creed. It is by achievement that man progressively evolves himself; indeed the story of man is nothing but the story of the developmental urge, will to live, *élan vital* or *moral*. Bertrand Russell observes: "The less active members of a community often do in fact desire wealth, since it enables them to gratify a taste for passive enjoyment, and to secure respect without exertion. But the energetic men who make great fortunes seldom desire the actual money. They desire the sense of power through a contest, and the joy of successful activity." Thus the problem of production and industrial labour which was the central theme of the older political economy will give place to the problem of evoking creativeness and the joy of labour. And, indeed, the reconstruction movements of the day are aiming at the organization of industrial labour and education to foster the impulses both of creation and distribution instead of the mere production of wealth. Along with the impulses of hunger and acquisitiveness, the instinct of workmanship and the love of making things of all sorts, or the instincts of self-assertion and

¹ Cook: "City and Country," *The Journal of Heredity*, April, 1921.

curiosity, play and amusement, have an intimate bearing upon the psychology of man's social life; and, while they often have been connected originally with the food process, they have quite separated themselves, as Veblen and others have shown, from economic functions. The processes of selection, now going on in society, stimulate or inhibit these instincts, and their exaggerations or suppressions are attended with serious disturbances. The proposed method of remedying them is also superficial and unpromising. Dr. Patrick vigorously urges that the present attempt to remedy economic unrest by some political or social machinery is based on fictitious values and unsound psychology: "It would not satisfy any basic human instincts or interests, and most of all it would dispel unrest only at the cost of vitality and progress. It rests upon the theory of the intrinsic value of industrial labour, and upon the intrinsic value of comforts and luxuries and that kind of education which promotes them. It is only because we have come to put so high a value upon material comforts that industrial labour has taken so high a place in our estimate of worth. But industrial labour is not in itself an ultimate value. It is rather in itself an evil which our worship of wealth has forced upon us. It is drudgery. The only labour which is of intrinsic value is creative work, which satisfies the instincts for constructiveness."

Direction of Instincts the Ultimate Economic Problem.

Since the basic instincts are the real propelling forces of society, their guidance and direction through education and economic organization is, indeed, the ultimate problem of economic life. This is a far cry from the economic progress achieved through the hand of an invisible Providence by the free operation of the Enlightened Self-interest of the classical school which knows only of the hedonic impulse and ignores not merely the group consciousness, but also the gospel of the productive life for the individual. Economic group control is also essential to check uneconomic or unethical

competition, to secure an equitable distribution of wealth and opportunity, and to stimulate active inter-group co-operation for this end. The whole social and economic system is stimulating over-individuation and its resultant egoism and selfishness. Unless we find an antidote and therapy for it, many anticipate the death of modern civilization. Here animal society has a great lesson for us. There is not one instinct in any social creation, from bees and ants upward, that does not subordinate the individual to the group. All that these creatures do from birth to death is in the interests of the community. No individual lives unto itself. The formicary and the bee state are vastly older than man and may long survive him unchanged, because for each member life is service. Hence comes the stable forms in which these gregarious instincts find expression. Each social animal lives true to its type with complete self-subordination and self-sacrifice, if need be, to it. This is true of wolves, wild sheep, horses, cattle, elephants, deer, buffaloes, lemmings, pelicans, seals, all creatures that build social nests, migrate, and make forays. Here we see the consummation of mutual help¹. Man alone develops consciousness of self and in him alone it has grown so hypertrophied that it needs to be kept in check to-day by a sounder education and morale. Biologically viewed, the eyes, ears and other sense organs of animals were developed chiefly for the capture of prey and the avoidance of enemies. But once formed they were the starting-point for the life of consciousness that has culminated in man. In man the necessity for effort has led now to hyper-individuation, which is a danger to the further evolution of the race. Thus a community of organisms forming a whole with interdependent parts working for its own continuance is no longer a true description of human society. It is of course true that the solution will never be found in social evolution in the almost total subordination of the parts to the whole, as of the cells in our own bodies or the exploited masses in our industrial societies. But there are to-day wanted more than ever a harmony and co-ordination of the independence of personality

¹ Hall : *Morale*, p. 365.

and the individuality of society as a whole. We already see glimpses of this harmony in group development in every field, economic, social and political, which to-day is giving expression in the West to the vital need of transforming the industrialism as well as the central monism of the capitalistic industry and the State into a composite pluralism. But, along with the transformation of the social machinery, there is also wanted an education and direction of the right impulses and instincts that will deliver society from the egoism of the individual on the one hand, and the enormous mechanical pressure of capitalistic industry and State on the other. Thus, recent advances in biology, inductive social science and psychology alike agree with this view of evolutionary economics that the way to progress lies in the power of intelligent selection and active adaptation in the interest of the race.

Instincts to be Cultivated.

If the creative and the distributive impulses represent the two higher energies in contrast with the two lower, the acquisitive and the possessive, it is of great importance that the former should be cultivated in the daily relations of social and economic life. Since the industrial revolution and the unhappy antagonism of labour and capital, we have entered upon a new era. We must realize that the competitive régime is a great impediment in the advance towards the nobler type of personality. We now get the keen business man, the successful workingman or the active professional man, moved by the impulses of self-preservation and self-display; and, in spite of social idealism and philanthropy, the aspiration for brotherhood is gently put to rest by intense competition, sharp dealings and successful deceits in actual life; while a great majority live a *blasé*, colourless life, or give freer rein to the sensuous pleasures which are disintegrating and disruptive. Socialism and the labour movement, in spite of their truly synthetic and inspiring appeals, are to-day running in the same old groove of a supercilious and selfish life, or rearing from their ranks individuals who not only lack human love and forbearance, but are actually keen,

calculating dictators. The demand for a higher standard of living becomes in their hands a demand no longer for biologic sufficiency and balance, but for greed and self-display which upset the balance of nature and of society and fill the proletariat with anti-social feelings. The nations will succeed better to-day by cultivating the oriental discipline in the limitation of wants and the subjugation of analytic or disintegrating tendencies. They should strengthen and hereditarily impress by a wise system of education and economic organization those synthetic or constructive tendencies that strengthen noble aspiration and spiritual impulse, the joyous, inspiring mass-consciousness which will find in industry a field not for man's self-assertion but for the service of backward or unprivileged fellow-men who show equal qualities but have had inferior opportunities. Neither regulated competition and private capitalism, nor the dictatorship of hunger-born socialism, neither the siren lure of international commerce nor the pacific gospel of international labour, can bring peace to the economic life unless both heredity and education impress upon the coming generation the need of bending and adapting the instincts for achieving greater social solidarity and less individual appropriation. Thus only can we replace the squalid and squandered life which are the characteristics of modern industrialism by social conditions and ethical ideals, superior to those of any other epoch, which will ease the burden of the oppressed and unite privileged and unprivileged alike in a common brotherhood of work and welfare.

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CHAPTER VI

THE ANTHROPOLOGICAL STANDPOINT

Basic Science of Society.

Social psychology is formulated to-day as a basis for all the social sciences. Says McDougall: "The department of psychology that is of primary importance for the social sciences is that which deals with the springs of human action, the impulses and motives that sustain mental and bodily activity and regulate conduct." In accordance with both its actual evolution and its essential features, this psychology is dependent on the progress of evolutionary methods and biological researches. Many of its root ideas are to be found in the sphere of animal psychology and in particular in the notion of herd-instinct. In general, sociology is regarded as the basic science from which alone it is possible to approach the mental characteristics of individuals. Professor Brett says: "The French school, represented by Durkheim, Lévy-Bruhl and others, is mainly responsible for this view, which continues to excite controversy. In certain directions, *e.g.*, the genesis of conscience or the development of religious beliefs, the sociological way seems at least easy; in others, *e.g.*, the questions of time, space, sensation or memory, there seems to be some confusion between content and function throughout this subject, and perhaps a proper distinction between these would assist any future attempts to define social psychology. This may be said without forgetting that even the thought of time (percept or concept) may be inextricably complicated with tribal customs and common interests of rainfall and harvest." ¹

¹ *A History of Psychology*, vol. iii., p. 289.

Psychology of the Group.

Similarly, not only the development of wants, economic motives, etc., but the economic processes also are conditioned by mental processes which seem due to the social environment ; value itself is to be regarded as a product of the social mind. Indeed, the sense for social relations, and for instincts will help the economist much better to analyse economic life and institutions. A typical form of modern social psychology is presented by Gustav Le Bon with his treatment of a group as a psychological unit with a group-mind, and a group psychology. Le Bon's conclusions are useful in analysing the intensity and elasticity of demand, the standard of life of different social strata, the factors which govern market value, prices, crises, the psychological conditions of industry, etc. But there is another useful modern application, *viz.*, the psychology of peoples. Le Bon analyses the differences in mental endowment between races and nations which underlie social phenomena. He deals with the fundamental characteristics of various peoples considered as psychological units and shows how impossible is a racial classification based on descent, and how unsatisfactory is one based on physiological characteristics. A race as he conceives it is primarily a social group, which by a common physical and psychical heredity develops a distinct character or "soul". In early historical times this soul had no local habitation beyond the family, tribe, city (as in Greece), or village (as in India). More recently it has expanded to include the state or nation. The fundamental characteristics which differentiate races, Le Bon holds, are few in number and practically unchangeable. The necessary characteristics, however, due to environment, circumstances or education, are changed with comparative ease. But it is "the character of a people, and not the intelligence which determines its historical evolution and governs its destiny." ¹ Le Bon shows how social institutions are a manifesta-

¹ Here the influence of the anti-intellectualist movement is apparent. As in the science of teaching the training of character more than of intelligence is an instance of the influence of anti-intellectualism in educational ideals, so in anthropological psychology the racial impulses more than

tion of the invisible soul of a people and how impossible it is to change these institutions excepting through a change in the soul. "The history of civilization is composed of slow adaptations. The brain cells do not assimilate in a day what it has taken centuries to create, and what is adapted to the sentiments and organisms that differ from one another. Only slow hereditary accumulations allow such assimilation."¹

Psychology of Race and Nation.

Le Bon emphasizes how the history of nations is a consequence of their character, illustrating this truth especially from politics, and shows how France to-day, as for generations, stands for State control, in contrast with the English demand for social endeavour by voluntary co-operation. Professor McDougall recently has analysed the differences between the Nordic and Mediterranean races. The difference between the French and the English is explained by him by the assumption that the English have much curiosity, little gregariousness, and are introverts. The French have little curiosity, much gregariousness, and are extroverts. A nation, in McDougall's judgment, is essentially a psychological concept. The mental homogeneity, which is the peculiar mark of the nation, may be either native or acquired; and in all actual nations is in fact both. Most of the differentiation between races was accomplished in the long ages before the historical period. But we are not without clues as to some of the factors at work even in that remote period. Even granting (as apparently we should) that there is no inheritance of acquired characteristics, we can

racial culture and acquirements are sought to explain those habits and behaviour which contribute most to a socialization of humanity. Racial intelligence might well go hand-in-hand with mass atavism in the form of a reversion to barbarism, but where racial impulses have been embodied in characteristic institutions, the very rigidity of such institutions stands in the way of such reversions. Most often the Nemesis of racial culture is war. Probably the horror of war and its main cause, *viz.*, chauvinism, has changed the character of anthropology when the race, a real living unit, refused to merge itself in a vague abstraction of international monotony.

¹ Le Bon: *The Psychology of Peoples*; compare Bristol's *Social Adaptation*, pp. 133-6.

see that geographic and climatic influences must have played a considerable part, directly or indirectly, in selecting certain physical and mental characteristics and repressing others. Since the beginning of the historical period it has been the social rather than the physical environment which has had the chief influence in moulding and developing racial heredity¹. Inductive studies in racial characteristics, from the standpoint of social psychology, have only just begun. Some writers contend that emphasis should be placed on the study of social values, social attitudes, temperament and organization, rather than of instincts which emphasize similarities that often have no existence. With the impetus given to the subject of temperament by the interesting work of Downey, and with current interest in the study of human wishes, there is ground for hoping that temperaments could be classified adequately and that a method of comparing them could be devised. *The Polish Peasant*, by Thomas and Znaniecki, is a model of this type of investigation. It proves that an intimate knowledge of the attitudes, customs, institutions and problems of a group is possible with a painstaking use of the inductive method. Instinct tends to describe men *en masse*; temperament emphasizes the differences. The isolation of the temperamental factor in the complex social attitudes will thus be a powerful aid in the interpretation of social behaviour². A psychological statement of the race and the race mind is needed, and this must utilize comparative methods in considering the differentiation of racial stocks as well as the improvement of races, traditions and customs. Large and more or less stable groups, such as the caste, the nation and the race, are united by a common physiological and psychological inheritance. This enables us to understand important differences in character between the Eastern and the Western peoples which furnish the basis of the variations in institutional life and development. The economic system is based on emulation or competition, which McDougall regards as evolved by a process of differentiation from the

¹ *The Group Mind*, by William McDougall.

² Ellsworth Faris: "Are instincts Data or Hypotheses?"—*The American Journal of Sociology*, September, 1921.

instinct of pugnacity. In the West, this social force underlies a tremendous amount of productive activity which has brought about her industrial supremacy. Some races show great differences as regards the strength and tenacity of the impulses of pugnacity and competition. The Dutch, the English, the Americans, and still more the Hebrews have shown greater individualism, while the principle of co-operation has a peculiar fascination for all the Slavs which almost inevitably attracts them towards one or another of the many possible forms of socialism¹. As Palmer says, "The Slavonic ideal in Austria, as well as in Russia, has always tended in the direction of groups of small manufacturers, co-operating with one another, rather than vast industrial concerns in the hands of a single manager, or controlled on behalf of a Company by irresponsible, autocratic Managers. The Slav has an intense dislike, I might almost say an instinctive dread, of the great capitalist, and it is especially this feature in his character that renders friendly relations between Slavonic workmen and Jewish capitalists nearly impossible. The ideals of the two races are the direct antithesis of one another." Masaryk observes: "The existence of old Slav and old Russian democracy is by some deduced as an outcome of agrarian communism, being considered a corollary of the Russian institution known as the *mir*, the village community, and of the occasional existence of the family community (known among the Serbs as *zadruga*). This theory has been advanced by the Slavophiles and the *Narodniki*. The earliest historical data regarding Old Russia may be interpreted by the analogy of the primitive institution obtaining among other Slav and Aryan nations, and by the analogy of the primitive conditions contemporarily existing in certain regions of Russia (Siberia for instance) and among the so-called primitive peoples inhabiting various regions and belonging to diverse races. By these considerations we are led to suppose that agrarian communism prevailed in Kievic

¹ Miliukov suggests that in Russia the emphasis of communism is due to the city-bred intellectualism, which is bound to be divorced from folk-traditions, and has thus led to the peculiar trend of Russian social history; that it does not rest itself on institutional standards but upon the latest beliefs and opinions of radical sections of the community.

Russia. The *Narodniki* in Russia considered that the Russian *mir* and *artel* represented primitive communism, but they believed that Russia could attain the higher and definitive form of socialism and communism without passing through the stage of capitalism. Russian agriculture in conjunction with Russian industry, both passing to a higher stage of development, would constitute a natural organic, socialistic whole."¹ Among the Russians the traditions of the *mir* and the *artel* are too strong to be neglected, and some writers regard sovietism as the reorientation of the old Slavonic communalism. Among the Serbs also each family lives on its little estate, sometimes increasing to eighty or a hundred members. There are families and family houses which have been on the same land for a thousand years. Both in Bulgaria and Serbia, the bulk of the land is held by peasant proprietors. These are organized into communes very much on the Russian system; and the rights of the commune are very jealously safeguarded. As in Russia, the central government must take no part in the administration of the commune or maintain any agency of its own to interfere with communal affairs. The commune forms the basis of the State fabric and enjoys a complete autonomy. There has survived on the basis of the rural economy an art of peasant-applied decoration which recalls the earlier and more primitive forms of Byzantine art. The Balkan peoples are usually exceptionally hard workers, though they do not show any predilection for factory labour; and Balkan tapestries, carpets and embroideries are distinguishable from the peasant work of other countries by their boldness in design and colour. The village seeks to maintain its self-sufficiency, and each villager contributes to the common grain store some share from each harvest as a provision against times of famine and scarcity. The family tradition, the village community and domestic art and craft of the peasant population present features akin to the conditions in the East and markedly different from the economic conditions of Western Europe.

¹ Masaryk: *The Spirit of Russia*, pp. 13 and 306.

Communal Instincts of the East.

The Chinese, the Japanese, and the Indians similarly show the same spirit of communalism, and it is for this reason that social and economic institutions in the East have a peculiar stamp. Not merely in Slavonic lands, but also in India and Java, China and Japan, economic life is lived within the independent self-governing village communities. The masses have continued to live socially under village councils owing duties to the village community. The village tie is very different from the old tribal consciousness holding together the clan or village, which acts for the group and does not allow private property or individual enjoyment.

A natural endowment of communal instincts, and, consequently, an organization of communal control, have thus evolved quite different instruments of social progress among different peoples. In the village communities, guilds, unions and brotherhoods, the Eastern people have learnt to develop communal morality satisfying the needs of a deeply socialised and humanized economic life. In fact, in their genius for co-operation they have a powerful instrument of competition with Western Europe and America, which they do not, however, sufficiently appreciate. Indeed, the differences in original proclivities and native equipment of instincts, and consequently in social and cultural values, of different peoples supply the psychological basis of the comparative study of institutions.

Importance of Race Psychology to Economics.

In Germany, after the War, a new anthropological movement is characterized by a broader and more comprehensive outlook. The material of anthropology is going to change. Its observations will include the study of the social composition of a people, of the eventual social differences and the accompanying diverse mental capacities of the individual strata, and finally of the social changes which may take place in a folk under the influence of civilization, and the bearing of all these matters on its future evolution and as regards guiding its controllable factors. The data will thus be extended into a

study of mental as well as the physical characters, and these of the white races as well as the dark and yellow. It means that anthropologists will not only study individual psychology but also folk-psychology. Comparative Economics and Politics are founded on the data supplied by the new Anthropology dealing with the life schemes and folk *mores* as well as group organizations of different peoples. And these should be looked at from the static as well as from the dynamic point of view, in order that economics may utilize the social habits and traditions of a region to the needs of renewal. Ethnic endowments and social values of a region represent too strong a force to be neglected in schemes of economic reconstruction. Thus the study of the race temperament as well of changes in *mores* due to the intercourse of peoples is essential for the conclusions of Applied Economics. Veblen has shown that in the Western populations the different social strata differ in temperament in a way similar to the difference between the predatory and the anti-predatory variants of the ethnic types ; the dolicho-blond type showing more of the characteristics of the predatory temperament—or at least more of the violent disposition—than the brachycephalic-brunette type, and especially more than the Mediterranean. The dominance of the one or the other ethnical elements has its influence on economic life and institutions¹. Thus, Veblen thinks that the dolicho-blond type, which is the dominant upper class ethnic type, has super-imposed upon the subservient lower class types of man, which are conceived to constitute the body of the population of the same communities, the leisure-class scheme of life which furthers the conservation of the barbarian temperament, chiefly of the quasi-peaceable, or bourgeois, variant, but also in some measure of the predatory variant. Thus the aristocratic and the bourgeois virtues—that is to say, the destructive and pecuniary traits—should be found chiefly among the upper classes, and the industrial virtues—that is to say, the peaceable traits—chiefly among the classes given to mechanical industry. Current social and industrial forces and ideals are now

¹ Ripley has also discussed ethnic stratification and urban selection in *The Races of Europe*.

demanding greater class co-operation and sympathy and a more peaceable effective temperament on the part of the community. Thus the question of economic reconstruction resolves itself into the eradication of the predacious temper, but this is a slow process. Meanwhile, the standards and ideals of economic life will still be dominated by archaic traits, conventions and habits and the adjustment of the collective life to the environment will be delayed.¹

Adaptation of Instincts in Social Reconstruction.

The conflict between habits of life and new exigencies under a new scheme of human relations is characteristic also of the East, where the rich endowment of strong communal instincts and sympathies is now required to find expression along a new line of action, in a new group of habitual response to altered stimuli. The earlier-acquired, more generic habits of the Easterners, which are persistent, must now be adapted to new conditions, and the antagonism and differentiation of interests which are appearing in the new situation ought to be tempered and regulated by the neighbourliness and mutual sympathy which have been the peculiar acquisitions of the East under a severe and protracted discipline of communalism.

It is true that contact with the West has here brought about a change in the traditional gradation of instincts and values ; in particular it has brought to great prominence, by way of reaction, some instincts that were formerly inhibited in the past. It must be realized, however, that it is through impulse rather than will that a people achieves progress. As society adapts itself to changed times and changed standards, it is ours to make sure that what we cultivate by deliberate rational purpose, may be at least as directive and reconstructive as instinctive or traditional habit. Nothing, therefore, will be more detrimental to economic progress than to destroy the communal background which is the expression of our race temperament, and the great task of social reconstruction in the East is to renew and adapt the old and essential impulses and habits to the complex and enlarged needs of to-day.

¹ Veblen : *The Theory of the Leisure Class*, chapters ix. and x.

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CHAPTER VII

THE INSTITUTIONAL BACKGROUND

Reconstruction Programmes of East and West.

In the reconstruction policies which are formulated in the West we often find a two-fold limitation. In the first place, they spring from an abstract intellectualism, which encourages egoism at the expense of social affection. They establish a disparity between intellectual standards and values and the folk traditions which are the reservoir of a people's institutional experience and wisdom. Secondly, they tend to schematize life under a uniform mould or pattern, and miss the variety of life-schemes and institutional values in the formation of which ethnology and social history play an important part. In the West this divorce and artificial uniformity are the root-causes of the inadequacy of recent reconstruction policies. In view of the fact that institutional life in the West has been organized less on social impulses than on occupational and class interests, and that the trend of the Nordic and Mediterranean peoples whose culture now governs the world has been individualistic, the East must needs build its programmes on the basis of social affections with which it is strongly endowed and on the communalistic institutions. These still prevail in spite of recent set-back and disintegration due to the universal bias for the recognition of superiority and superimposition of a different type of culture, and form the sure foundations of our social reconstruction policies. An individualistic ethics in the West has proved particularistic, fond of abstractions, even pessimistic in its attitude towards the moral ideal. It stands in need of the poise, the hopefulness, the consciousness of power gained through more intimate contact with the setting of

institutional selves from which it has revolted. There is also a feeling of inchoateness, of absence of conviction and community of purpose, most disconcerting to one interested in building up an intelligent and effective public sentiment. On the other hand, if the history of the Eastern peoples teaches anything, it is that an efficient public sentiment can only be kept alive by a vigorous and refined institutional life¹. In the East the group spirit has been our master, the institutional selves mount guard over the long flight of years. The vigorous and effective discipline of the group sentiment supplies us with a powerful lever of economic reconstruction as well as with a shield armour against disintegrating influences. The need for an unbiassed study of the basic factors in Eastern rural communalism is therefore more felt now than ever.

Eastern Village Communities.

In the East the organization of rural communalism represents a far more complex and integrative state than what is implied by tribal communism, with which Western writers generally confuse it. In the first place, individualism does exist. Personal property in arable land is an ancient institution. But the idea of traffic in land was discouraged. Apart from use there has been no sense in possession. Secondly, the bond of union is not kinship but common economic interest which encourages natural order of mutual life. Thirdly, as the population increased and its pressure began to be felt, village communities arose to prevent the destruction of resources through unrestricted use, to redistribute land left fallow, and to equalize the unequal returns of nature. Meadows, forests, pastures, irrigation-channels, did not pass through the stage of individual property, but evolved on account of social necessities from an absolutely free use directly to elaborate forms of regulation. Nowhere are these regulations more adapted to geographical and ethnic conditions, and more equitably arranged to keep in check antagonistic interests than in the Indian village communities. It must be remembered that in the village system pastures, threshing-floors, irrigation-channels, wells, etc., occupy

¹ *Vide* Mecklin : *Introduction to Social Ethics*.

the place taken in modern industrialism by capital resources; and these are common rights because each community is united economically. The village community is innocent or intolerant of monopoly, counts its wealth in things commonly desired and directs its labour to serving its own needs, though it is not rare that the products of its looms and lathes find markets beyond its confines. It is true that the characteristics of this economic order are true of the old German *mark* or the mediæval English village; but in India, while men clung to their village communities, great cities also arose and there was evolved an interdependent system of rural economy and urban exchange—village production often finding its sale in outside markets even beyond India. In Western Europe it was merely village production for use which was hopelessly beaten by superior economic force. Just as the village handicrafts and artistic industries showed a more advanced stage of division and specialization, so if we compare the density of the Indian and Chinese population, and the complication of the open field system due to manuring and to co-operative irrigation as well as to differences in topographical conditions, we have to admit the wonders worked by the careful and discriminate intervention of the Eastern village community as compared with the simpler system of the mediæval village of the West. Village communities in India and China may have originated in family, clan or tribal traditions, but upon these have been superimposed a long and gradual process of agricultural and communal experimenting built up by a rich endowment of communal instincts of the people. Indeed, the social ties between the man and his village, clan or family have not been broken, though commercial life tends very much to snap them. The social sympathy of the people enabled the close-knit village communities to survive, though they were again and again invaded and subjected, and still maintain the old mutual life. The mere fact that they have outlived by a thousand years the violence and the avarice of man shows that they obey certain elemental laws of social and economic life. Such laws are connected with the evolution of communalism built up by the distributive and synthetic instincts of the Eastern peoples.

Relations of Capital and Labour in the East.

Status in the East is based on certain natural feelings which have evolved corresponding economic habits, and these dominate not only agricultural, but also industrial life and relationships. In Japan, where we find the most sudden and violent clash of motives provided by the impact of Eastern custom, mind and state with the nineteenth century industrialism and social philosophy, the old patriarchal relations between employers and employed survive stubbornly under the capitalized factory system. So much is this the case that some social thinkers in Japan see in the perpetuation of this beautiful sentiment between capital and labour—a sentiment they cannot find in the West—Japan's own peculiar solution to the labour question. Baron Shibusawa, the greatest capitalist of Japan, writes: "The relation existing in past between capitalists and labourers was a relation of feeling and affection. To provide a law and establish this relation on the basis of rights and duties would have the effect of creating distance between them. The hope of social harmony, of a good relation between capitalists and labourers, is to be grounded on the relation of 'good customs and beautiful sentiments.' If labourers and capitalists alike followed the 'royal path' and looked upon it as a rule of human conduct, industrial differences and law suits would be avoided. This bond is superior to a hundred statutes and a thousand laws. The true bond is that of sympathy, and the notion of rights and duties can have no other effect than to separate capitalists and labourers."¹ The existence of the family system, the domestic industry, the village community, the guild control of craft and industry, *Bushido* and *Shinto* are among the institutions which make a differentiating mark on the social and economic institutions of Japan. Similarly in India custom very largely dominates economic life and relationships. Occupations in the villages are determined by caste, the setting apart of crop at each harvest or plots of land give a man leisure and contentment to follow the hereditary calling. In the first place, the individual

¹ Quoted by T. Johnes : *Economic Journal*, vol. xxxi., March, 1921.

being unable to roam about over the entire economic field, the intensity of competition is much less. Secondly, there are binding rules or accepted standards of fairness in every occupation which restrain competition even in its circumscribed field. The guild regulations of industry, trade and handicraft, in India, China and Japan, are consonant with popular ideas of justice and fair play and have made for order and continuity in the social system.

Industrial Organization under Communalism.

In guilds in the old Indian cities there is a universal attempt at the regulation of wages and under-bidding is punishable. Prices of gold and silver, discount rates and brokerages are fixed even to-day by the guild *Sabhas* in Gujrat and Central India. The elaborate guild organizations among the *Viskarmas* and the *Sourashtras* of Madura and the carpenters and goldsmiths of Ahmedabad deserve careful enquiry and will give hints for the guild-socialist plan of reform. Written documents are not uncommon. There is the handbook of the *Chiteras* in the Panjab regulating conditions of apprenticeship. In Madura among the masons there is a signed agreement that no one should take up a work half-finished by a member of the guild, no one should abstain from work except with the consent of the headman, and that all movements from one place to another should be duly notified to the headman of the guild. More interesting in the South Indian cities is the division of particular jurisdiction among milkmen, for instance, for their custom as well as among professional thieves (*kallans*) for loot in all the southern districts, Tinnevely in particular. Throughout India in the village communities the remuneration for village artisans like the carpenter, the blacksmith, the potter, the barber, etc., is determined by "custom", which however is elastic and subject to the law of demand and supply. In Northern India caste rules strictly prohibit any one entering into competition with another of the same caste. The exclusive right to employment by the people in the circle constituting a man's *brit* is often so well established that it is regarded as heritable property and with Muhammadans is often granted as

dower. Everywhere the communal organization of industry has still preserved payment of wages in kind and in perquisites on occasions of family ceremony and communal festival, while custom tends to bind the people and the artisans or common village servants in natural social relationships. Economic service is a part of social obligation and exchange is no impersonal transaction. The variety and exuberance of local and communal bodies and associations testify to the strength of communal instincts and feelings as binders throughout the East, and indeed the organs of social control which these have evolved are different from those met with in Western social evolution.

Indian Village and Caste Assemblies.

Both the village community and the class or caste begin as kinship groups, but gradually they encompass the local or the occupational brotherhood. In India, characteristic is the all-pervasive authority of the ubiquitous five, the village *panchayat* and caste *panchayat*. The former is a local body not based on caste ties which has a wide jurisdiction. The latter includes a whole kinship brotherhood inhabiting a group of villages and extending beyond a district or merely a few selected sub-castes. There is complex interlacing of these local and non-local bodies. Thus one craftsman guild may comprise different castes and one caste may have sub-divided guilds; similar interweaving is seen among village and caste assemblies in the villages. These represent the hierarchy of popular juridical bodies, though they are unrecognized by British law and they deal not only with social matters, but also matters which would normally come before a law-court, whether civil or criminal, are usually discussed there before the courts are moved. India is honeycombed with these caste and village assemblies, which run on parallel lines in extending circles of jurisdiction, though at times they may intersect one another. Such indigenous local bodies, indeed, remain the essential bedrock of the old communal democracy in which is the real continuity of the national life of India, which looks to the people to manage their own affairs according to well-understood

traditions. It is the fiat of these local and non-local associations which regulate competition and check hard bargaining and sharp practice.

Chinese Village and Guild Government.

Instead of State laws, guild custom and usage contribute to maintain economic solidarity in the East. This is best seen in China which has preserved intact the system of village government throughout the agricultural population and of community government in cities. Each village has an elder who comes to his position not by any formal vote of the villagers, but by common consent. To him all disputes as to property or personal rights are referred, and he is the representative of the village in disputes with other villages or in any matters that require the attention of the government representatives, the magistrates of the districts. In the cities, where the people are within easy reach of the officials, there is, in every district, a man from the community known as *li-pao* or some similar term, who acts as an intermediary for the magistrate in all land matters affecting his particular locality. These men also are charged with the duty of keeping undesirable persons out of their community, and are responsible for the actions of such persons if they fail to report their presence.

Not less remarkable as testifying to the age-long capacity of the Chinese for collective life in order to promote joint interests are the religious fraternities, secret revolutionary societies, industrial guilds and trade corporations. Professor Benoy Kumar Sarkar has described the autonomies and immunities enjoyed by the rural communes and trade guilds of China. He has asked whether these can exert no influence on her present-day experiments in nationalism or democracy. The constitution of some of the modern guilds of China is democratic with a vengeance. Thus, for instance, the tea-guild at Shanghai has at its head an annually elected committee of twelve. Each committeeman acts in rotation for one month as chairman or manager. No guild member may refuse to serve on this committee. Another guild, that of the millers at Wenchow, is composed of sixteen mill proprietors. A com-

mittee of four is selected by them in such a way as to bring each member in his turn on the committee. But the ruling price of the flour each month is settled by the entire craft in conference.

The guilds make their own rules and modify them whenever necessary. And, since they are all voluntary associations, owing their origin to no charter or governmental licence, one can guess from the guild rules to how powerful an extent the merchants of China are willing to be bound by the laws of their own making. One of the rules of the tea guild at Shanghai is thus worded: "Pending litigation with a foreign firm, members of the guild shall transact no business with the delinquent firm; relations are not to be resumed till the case is adjudicated." These ultra-democratic corporations do not in reality stop short of enforcing on their members the greatest possible solidarity of interest. "It is agreed," as we read among the rules, "that members having disputes about money matters shall submit their case to arbitration at a guild meeting, where every effort will be made to arrive at a satisfactory settlement of the dispute. If it prove impossible to arrive at an understanding, appeal may be made to the authorities; but if the complainant resorts to the courts in the first instance he shall be publicly reprimanded, and in any future case he may bring before the guild he will not be entitled to redress."¹

The village communities, guilds, clans, families and the unorganized gentry in China thus carry on education, sanitation and public works. Besides these, China has also her philanthropic associations, mutual aid and mutual defence clubs, as well as agricultural brotherhoods which maintain the peace and harmony of her economic and social life.

Japanese Village and Trade Organization.

Nothing also is more characteristic of Japanese rural life and labour than the variety and multiplicity of mutual-aid brotherhoods and guilds for dealing with sanitation, agricultural improvement, education, physical improvement, moral

¹ Benoy Kumar Sarkar: "The Democratic Background of Chinese Culture," *The Scientific Monthly*, January, 1919.

uplift, temperance, etc. The multiplication of local and functional groups is a great help since their possibilities for moral training are recognized. The most remarkable successes of intensive rice cultivation in Japan have been made possible only by co-operative effort on the part of the Japanese farmers. In not a few villages there are communal seed-beds, so that many farmers may grow the same variety and there may be a considerable bulk for co-operative sale. There are in Japan hydraulic engineering works which, as Robertson Scott says, are "as remarkable in their way as any I have seen in the Netherlands. Some of these works—for example, the tunnels for conducting rice-field water through considerable hills—have been the work of unlettered peasants. In one place I found that eighty miles or more of irrigation was based on a canal made two centuries ago. It is good to see so many embankings of refractory streams and excavations of river-beds commemorated by slabs recording the public services of the men who, often at their own charges, carried out these works of general utility." Sometimes the channels are cut through sharply sloping banks packed with boulders and big stones, and strengthened throughout by banking, in order to cope as far as possible with the torrents which rage down the hillside in winter—construction which represents a vast amount of communal labour. By the side of each channel the excavated earth and stones have been used to make a path for packhorses. The water which comes down these channels serves not only for the ordinary uses of the village, but also for irrigating the rice-field and for driving the many water-wheels, the splashing and groaning of which are heard night and day.

In Japan every district, city, or village has its *ujigami*, and the village communities and guilds, which are vitally connected with the historic domestic and communal cults, still exercise very important administrative, economic and social functions. The relations between artisans and apprentices, between labourers and contractors, are still regulated by guild custom and usage. When home industry began to develop into factory industry in Japan, about half a century ago,

the workers had it impressed upon them that the old relations of *oyabun* and *kabun* were the same and that they owed obedience to employers as in former days in return for which they would receive protection. The psychology of the guild craftsman has still survived to some extent. There are unions, or guilds, consisting of unskilled workers grouped under *oyakata* or "bosses", who act as a medium between employers seeking labour and workers seeking employment. They are quite powerful and wield a good deal of influence as regards the employment of labour. Thus, employers wishing to bring in outside labour are obliged to pay the local "boss" or "bosses" for the privilege of doing so¹. They are bound to protect, to feed, or to find employment for the workmen in their guilds. Not less important is their influence on the rules of the trade or calling.

The code of the *jinriksha* men forbids one runner to pass by another going in the same direction. The young and strong runner is not to dash past the old and feeble runner, lest the latter be so much the sooner eliminated from the calling. When you have had a house built in Japan you have entered into a relation which cannot lightly be broken off. Whatever repairs may be needed during the life of the house must be arranged for with your builder, never with anybody else. None but he has the right to send for the plasterer, the roofer, the tinsmith. So it is with a garden. The maker looks after it season after season, and no other gardener can be hired to touch it unless assured that the original relation has been dissolved by mutual consent².

In contract labour a Japanese company, or *hui*, works its own hours, elects its own foreman, completes its contract satisfactorily, and divides the proceeds without any friction that ever comes to the knowledge of its employer. Indeed, the Japanese show such close and successful co-operation in these undertakings that it is useless for the Europeans to try to compete with them³.

¹ "Labour Unrest in Japan," by A. L. Whitney, in *Monthly Labour Review*, July, 1921.

² Ross : *Principles of Sociology*.

³ *Ibid.*

Chinese Settlement of Capital and Labour Relations.

Throughout the East there are village, guild, and caste feasts, which serve as a seal of amity, as well as periodical festivals which prevent society from disintegrating into bickering local groups or social classes. Nowhere, however, is the economic value of communal instincts more manifest than in the Chinese settlement of the problem which more than any other is disturbing the Western nations, *viz.*, the relations between labour and capital.

These relations were adjusted centuries ago by the formation of labour guilds or unions, to which all labouring men belong, and also of similar unions among employers, bankers and capitalists. These organizations are essential parts of community life, just as village government is of country life. It is taken as a matter of course that every carpenter, painter or mason belongs to a union, but organization is not confined to these groups. It extends to cooks, household servants, grooms, waiters, barbers, actors, and every form of employment, high and low. Every trade has a union: grocery men, fruit dealers, silk shops, book shops, art dealers, stationers, etc. Questions that arise between any two or more conflicting units of social life are referred to the committee of the union for adjustment. Rarely if ever is appeal made to local courts. These unions have their own guild houses, owned or rented by the members; or, in the case of some smaller unions, a public tea-house or restaurant is chosen as the rendezvous. Every member can freely express his opinion on questions discussed, but the decision rests with the committee. Members of the committees receive no compensation and are always persons actually engaged in the daily pursuit of the employments they represent. There are no paid organizers or officers, nor are there publicity agents. By the elimination of paid officials it is possible for the committees to come into direct contact for the settlement of disputes. There is no "open shop", for it is impossible in the nature of the case for any one to serve his own interest by remaining outside the guild. The most remarkable feature of the system is that it brings all employers and capitalists together in unions, and thus prevents the

unfair competition which otherwise can easily and safely be carried on by the moneyed classes against the poor labourers of any class. In a word, the non-use of paid agents, either of capital or of labour, and the union of capitalists who are obliged to disclose their methods to their competitors, are China's solution of the trouble between capital and labour. A thorough understanding of the method employed in this ancient nation would be of inestimable value to the Western countries in preventing further ill-feeling between class and class. There are no classes in China ; in place of them there are unions or guilds of every branch of society.

Sovietism : a Coming Polity

With the rise of sovietism, which is but a reorientation of the old Slavonic communalism, there has developed keen interest in the organization of village communities, unions or guilds in the East. It is realised that the principle of soviet rule by representation—not by geographical and political localities, but by social and occupational groups—has a vitality and possibility of development which statesmen reared under the system of parliamentary government of the Western mould do not realize. Indeed, the Chinese guilds, especially in the students' movements of the country, now so dominating in their influence, have encouraged expectation from sovietism of benefits which sooner or later will be extended to the whole of Asia.

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CHAPTER VIII

THE HUMANIZATION OF ECONOMICS

Assumptions of Classical Economics.

All economists have their psychological assumptions, and the only question is whether these are adequate and correct, or not. We have shown that classical economics based itself on certain unanalysed psychological postulates, which were not unqualifiedly true in the past and are not certainly true to-day. The employers determined the norm and the ideal, and the suggestions of the profit-seeking, employing class under whose impetus England took the lead in modern production, unconsciously dominated economic thinking. Thus a false doctrine of freedom of contract between unequal parties prevented a scientific analysis of industrial conditions, and the norm of the "economic man" took the place that ought to have been taken by an investigation into man's parental and gregarious impulses. The motives of the business man were identified with the essential impulses of economic conduct; in the quest for profits, social welfare was neglected. The age had small responsibilities for its great achievements, and the business man's motives and point of view were accepted as the type and the standard; from these were deduced the conditions of highest productivity and public welfare. This was encouraged by the methods of scientific analysis of the times. Economics adopted the methods of study that prevailed in the physical sciences. The predilection for deductive thinking that reigned was strengthened by and supported the emphasis of certain simple abstractions which obtained a fixed hold on the minds of economists who had but little inside knowledge. Guided by the logic of the business man, they readily accepted

the most simple and yet important figure in economic activity—the “economic man”—and made it the basis of the logical development of their concepts. Bagehot made his classical defence of this method by pointing out that science takes simple cases first. He conceived that the maxim of science is to begin by seeing how the main force acts when there is as little as possible to impede it, and, when you thoroughly comprehend that, to add to it in succession the separate effects of each of the encumbering and interfering agencies.

It was only the latter-day psychology that pointed out that “the encumbering and interfering agencies” were too strong to be neglected. These were seen to produce variations which are as important as the general trend, which again, cannot be “thoroughly comprehended” as the main force acting in isolation. Indeed, they form important factors of human behaviour which economists must recognize in order to arrive at adequate and correct economic concepts. On the other hand, the older and simpler pleasure-pain psychology served as the basis of reasoning of the classical economists and later was elucidated into elaborate economic concepts in the hands of the Austrian school and of Jevons and Edgeworth in England. This has now been definitely abandoned, though its use in economic assumptions still survives. Indeed, the social philosophy of Bentham and Mill, so long dominant in England, was based upon the doctrine that the motive of all human action is the desire to secure pleasure or to avoid pain. That this doctrine is fallacious, we believe, has been clearly shown. We have also sought to fill its place at the foundation by a theory of human motives in keeping with the advances in contemporary psychology¹.

Departures from the Old Assumptions.

Already we find notable attempts to depart from old assumptions as to economic behaviour. Mitchell, Fetter,

¹ McDougall: *Social Psychology*; see also Williams: *The Foundations of Social Science*, which contains a succinct criticism of the psychology of the classical school. Compare also Boucke, *The Development of Economics*, and Carver, “The Behavioristic Man,” *Quarterly Journal of Economics*, xxxiii.

Ordway Tead and Hamilton in particular have emphasized changes in economic assumptions necessitated by advances in social psychology. Fetter attempts a quite new statement of material value more in accord with the modern volitional psychology, thus eliminating entirely the old utilitarianism and hedonism which have tainted the terms and conceptions of value ever since the days of Bentham. The basis of value is conceived to be the simple act of choice, and not a calculation of utility. Even the phrase "marginal utility" is definitely abandoned. Nevertheless, the old assumptions still persist. Edgeworth thought that pleasure and pain are concomitant with physical processes which may be mathematically determined, thus making possible a scientific determination of psychological processes also, but this position is gradually being given up. Marshall admitted that the measurement of motives by money is inaccurate and that there are motives which cannot be measured at all. In his *Industry and Trade*, Marshall showed that the economic policy of England was governed by the enterprise of the English business man and his profit-seeking motive, but that the sturdy resolute, Norse character, as well as delicacy of perception, maintained England's industrial leadership, while the impulse for national superiority increasingly influenced German economic thought as well as policy. According to Roscher, the pioneer of the historical school, economics enquires how the various wants of the people of a country may be satisfied ; how the satisfaction of the wants influences the aggregate national life, and how in turn they are influenced by national life. Professor Williams has shown that, among German economists, Wagner was impressed with the motives of the thrifty middle class ; Knies, Schmoller and Brentano with the impulse for national economic development and superiority which was becoming marked in their day ; Sombart with the motives of the leaders in this national development. Apart from the burgher spirit, the motives of the business man, the impulse for national superiority, the militaristic ideal, or the ideal of social justice and economic self-realization, which all have played an important part in the economic history and fortunes of different peoples and

states, modern psychological analysis has brought to light original dispositions and tendencies which govern economic behaviour in its essentials.

The insight into the unconscious factors of experience which play so large a part in human affairs also brings economics far away from the doctrine of unmodifiability of man and his motives which was the basis of the logical introspection and individualistic assumption. From this point of view, the theory of psycho-analysis will throw light on states of economic unrest, discontent and labour difficulties generally and introduce a vast array of invisible realities of human nature as an integral part of economic thinking, while the principle of substitute expression of energies, which is now accepted from the physiological and psychological standpoints, will suggest a new viewpoint as regards the question of the adaptation of human nature to economic circumstances. What are wanted are inductive studies in industrial and economic relations and the organization of motives underlying them, as well in the mutual reaction of changes in economic organization and in economic motives in a progressive industrial society. All this must be approached in the light of evolutionary psychology and experimental behaviourism, though opportunities for experimental investigation and verification are few. The innate dispositions and tendencies, conscious or unconscious, repressed or exaggerated, thus will be discerned, and related to one another as well as to economic activities and relations, and a scientific and concrete programme formulated, with the help of inductive studies in social psychology for progressively bringing about the economic conditions of self-realization of a composite social personality, the needs of which have been ignored on account of the persistence in "economic" hypothesis of individualistic behaviour.

Class-Conflict no Solution.

The background of economic thought to-day is class-conflict, which, however, never can be the foundation of a stable industrial order. Class consciousness is social neurosis; economics ought never to accept it as inevitable. On the

contrary, economics ought to analyse the conditions which have produced it and devise a programme to get rid of all that savours of the pathological. But the discussion leading us to an enquiry into all repressions in the home and in the community which lie at the root of class egoism is reserved for the next chapter.

Instinct and Custom as Affecting Economic Efficiency.

It need not now be emphasized that we have come to recognize economic efficiency as existing in virtue of and in subservience to an all-round social and individual well-being. But this tardy recognition awaits elaboration, in spite of the achievements of socialism, both in economic theory and in economic practice. The post-war scientific industry has been shaping a programme for the satisfaction of those vital instincts and standards which have played an important part in mental and social evolution and which have been inhibited by modern industrialism. Such inhibition was bound to be followed by reaction in the form of individual revolt, and has led to a whole series of measures and schemes of economic reconstruction. But little attempt is made to take the recent psychological advances into account in economic theory. And yet much of the production and distribution of wealth in a particular society takes place, not under the operation of strictly economic forces, but under the influence of instincts and customs, though these are always regulated by law or public opinion. Work is sometimes evoked not by utility but by instinct or custom. Thus, a great deal of the present inequality of wealth in Western society may be avoided, as socialism hopes to avoid it, by giving to leaders in industry their living wages and rewarding them with public approbation which may cause them to put forth ceaseless activity. Economics at present postulates that it is want alone that can evoke production, and fails to utilize the power of instinct and custom for inducing production and saving at less cost to society. Constructiveness and curiosity, which make their chief appeal to what is innate or instinctive in man, arouse economic activity, but as a rule are

ignored in mechanical production. Similarly, work in collaboration by the members of the family gains its zest from exciting instinctive impulses which are connected with the family life and which give rise to a whole series of co-ordinations in society. The parental instinct has received little recognition from the economist even in his calculation of the standard or efficient subsistence. In the theory of value, the cost of production has not taken into account the element of artistic workmanship or the social distinction attaching to the fineness of the goods as entering into quality ; while, in the demand for commodity, the estimate of utility has missed the value derived from the satisfaction of æsthetic impulse, or love of distinction, " a feeling which if we consider its universality and its constancy may be pronounced the most powerful of human passions " (Senior). Again, the treatment of production becomes more real and objective, when supply is viewed as supply to the group rather than to a solitary individual. Taking the case of the supply of labour, it is evident that the problem of population is exceedingly complicated and peculiarly incapable of complete elucidation in terms of the crude law of supply. There is, indeed, a mass of evidence that a rise in the standard of comfort of any class is likely under modern conditions to lead to a voluntary limitation of the birth-rate. The efficiency of the work also depends on the natural quality of the worker, the degree of special skill which he has acquired, and the intensity with which he works. The first of these, again, depends partly on heredity, partly on environment, including pre-natal environment, education, diet, and domestic conditions ; while the third depends partly on the degree of effort expended by the worker and partly on what have been described as his " factory conditions ", that is, the extent to which his immediate physical and nervous state permits his effort to be effective. Similar limitations are found in the concept of demand. An analysis of the productive process is connected with the rise and diffusion of fashions and with the differences in the elasticity of demand in different social strata, and these problems of social psychology can be ignored no longer in studies in production. Indeed, social psychology will

bring into a fresh light the importance of demand. In the treatment of value, the economist conceives of the manner in which a solitary person evaluates goods even as the humanist conceives of the manner in which a solitary being regards the universe. The new psychology emphasises that individual consciousness is the outcome of the social consciousness and that value is essentially a collective judgment. Wherever we look the influence of gregariousness, of social sympathy and solidarity is borne in upon us. Variety, distinction and novelty, the extension and deepening of wants which arise out of the solidarity of the group process, exhibit demand in quite a new aspect. The economists of both the neo-classical and mathematical schools still conceive of demand as fairly constant ; their treatment has reference to the analogy of the satiation of hunger, and to that alone. The marginal utility theory and the corresponding notation and graphs, indeed, rest on the conception of human nature as actuated by motives that spring out of bodily necessities only. They ignore that consumption in higher social levels takes an ever-ascending course ; in social or co-operative satisfaction demand never seems to be either checked or diminished as the result of increase of supply. Hence the demand and utility curves are far different from those given by the neo-classical economists. Group opinion or morality, or the standard of life and comfort of the different classes in society, determines the extensions of the demand curves. Since, in modern economic life, it is social or group wants dictated by opinion in the social *milieu* which far outstrip the bodily necessities, it is evidently erroneous to view production mainly from the direction of supply. Demand becomes the central fact in the economic process, and is seen to lie closer to value than does supply. Indeed, demand, value and money appear to be three aspects of the same phenomenon, and much of the confusion in modern economic analysis that arises from the interpretation of one in terms of the other is avoided by the understanding of the social nature of the valuation process. Lack of co-ordination, indeed, is the defect of economic analysis which cannot lift the problems of supply and demand from the merely mechanical

and physical plane. And, in the exclusively mechanical point of view, how easily and complacently the elements and factors are separated ! As in the case of demand, the social hypothesis of co-operative satisfaction shows the limitation of the individualistic conception of consumer's surplus, and emphasizes the interplay of the group in the deepening and extension of wants, so in the case of supply efficiency is to be regarded more as a function of institutional and occupational surroundings than of wages. Important applications have been made recently of psychology, physiology and psychiatry seeking to bring about an increase of efficiency and welfare of the workers. Scott remarks : " Those who have given most attention to the advances of psychology during the past two decades are confident that by the proper application of psychology the efficiency of men is to be increased beyond the idle dream of the optimist of the past."

" Efficiency " Study and its Conclusions.

Since by study of habits the efficiency of men in fundamental occupations has been increased from 40 to 400 per cent., it is hard to foretell what results are to be secured from more extensive studies. Most of our knowledge of " efficiency " study comes from America and is chiefly dependent on the investigations of F. W. Taylor and F. B. Gilbreth. The object in view was the standardization of human industry. Taylor picked out his best workmen, and determined the shortest lines taken by them to perform the various stages of the industrial operation under investigation. The lines were added together, and, after the addition of a certain allowance for unavoidable delays, they found the standard time or task. This required the workman to do three or four times as much work per day as he had done previously, without much regard being paid to his state of fatigue. Gilbreth gave more attention to the methods of work and endeavoured to ascertain what were the quickest movements possible in the various steps of an industrial operation. These he regarded as the best. Mr. Eric Farmer concludes as the result of his own observations in industries such as that of sweets production that the most

important principle of motion study is rhythm rather than speed. The best set of movements is not the quickest set, but the easiest set. The quickest set may cause too much strain on the workers and produce undue fatigue. It is better to make the movements of the hands required in an industrial operation in curves, without sudden changes of direction, rather than in straight lines. Increased production was not especially aimed at, although, as a matter of fact, it invariably occurred when a proper system of movements was introduced¹. Psychological tests have been applied to clerical, engineering, and metallurgical occupations, music, printing, salesmanship, telegraphy, telephone exchange work, transport work, war experiments, etc., and a wide field is now open for future investigations conducted on a broader scale and on a more systematic basis than hitherto. Comparative studies of the work process are bringing to light important conclusions. It seems to be a principle common to all life-forms to exert approximately maximum energy by inner movement; where lacking this is due to peculiar characteristics of the subject concerned. Fatigue causes the subject to misinterpret the objective facts. Thus, there is a rhythm of work process. Normal adults, some children and some sub-normals show a distinct work-rhythm. Where lacking, effort tends to introduce it, thus implying efficacy of practice. Insects exhibit such rhythm, mammals less so. The habituated and intellectually controlled movements and instinctive movements thus agree in working in the shortest line to their aim². Mr. Robertson observes: "War experience has demonstrated the alarming ease with which apparent half-wits could be turned into skilled manipulators of the most terrific instruments of death; and Scientific Management inculcates the substitution of systematically 'organized common sense' for expensively acquired rule of thumb as a means for improving the dexterity of the workman." The truth is more and more realized that

¹ *Nature*, February 16, 1922, p. 219.

² I. S. Szymanski: *Zeitschrift für angewandte Psychologie* 18-1. 3: 1-18 (E.T.H.). Professor Cathcart discussed the efficiency of man in a presidential address before the British Association, September, 1922.

skill is not associated with attention to the delicate muscular movements, but with occupational habits which are not merely a matter of muscles but also of the functional connection between nerve units, which latter are factors even in "muscular fatigue". Thus, several writers on business efficiency are conducting enquiries how habits can be thoughtfully selected and organized so that they may be of advantage instead of following unconscious adaptation. The aim has been to mechanize only those acts which may be made automatic with greatest advantage to efficiency and to leave the others free.

Psychological Factors in Industry.

The intelligence scale devised by Binet for the diagnosis of mental deficiency, the mental test employed by the American Army as well as the vocational test now coming into use for the selection of employees, have done much to familiarize the general public with the wide aims and large possibilities of psychological measurement. Both in the United States and Germany, methods of education have been revolutionized by the increasing emphasis now being laid upon the investigation into the various grades and kinds of deficiency ; the adaptation of teaching methods to special groups and types promises a rich return for the community. At Harvard and elsewhere, psychologists for some time have been elaborating psychological tests to select those who are best fitted for different types of vocation. The investigation is still only in its initial stages. But it is clear that, if vocational guidance were based in part at least upon observations and records made at school, instead of being based upon the limited interests and knowledge of the child and his parents, then not only employers, but also employees, their work and the community as a whole, would profit¹. A large proportion of the vast wastage involved in the current system of indiscriminate engagement on probation

¹ It must be remembered that intelligence tests do not afford tests of character, which is the most important element of personality from a sociological point of view. (Compare "Character versus Intelligence in Personality Studies," *Journal of Abnormal Psychology*, vol. xv., No. 1.)

would be saved¹. The efficiency system, accounting, the development of experts who examine, test and report upon not only city and state school systems, but also industrial establishments and methods, have opened new vistas which suggest that all the processes of production will be analysed and many of them made far more economic of human effort. Accordingly, in business, sale² and industrial management, in lessening industrial fatigue, in measuring intellectual abilities, the rôle of the consulting psychological examiner is gradually coming to be recognized by the industrial plants which find it advisable to cultivate the efficiency virtues of attending as strictly to their human outgo as to their human intake, of selecting workers on the basis of natural fitness, and of considering the problem of promotion upon lines of vocational psychology. But here again the mechanical ideal comes to the fore. Mere mechanical efficiency should not be the ultimate standard, and the quality of the labouring force may be imperceptibly lowered by an over-rigid system. The workman ought to be considered as an end in himself, with all his strivings and aspirations; and a psychology which wants to utilize even his instincts as assets in his rôle as a mere worker, and not as a full, complete and concrete personality, is surely an instance of the obsession of the mechanical, capitalistic ideal. Indeed, investigators of the intricacies of modern production, the efficiency men, often lose the forest in the trees when attempting to eliminate every kind of waste movement or adopt methods of selection in adaptation to natural aptitudes, but without giving adequate consideration to broad psychological factors like the sense of insecurity, lack of any direct relation between work and enjoyment, or absence of general initiative—which may itself be promoted by the new-found science—all of which directly promote fatigue and lassitude. It is becoming increasingly plain that the actual “factory conditions” of the worker, the extent to which a given degree

¹ Sir Robert Blair's Address to the Educational Science Section of the British Association, 1920; Hall: *Morale*, p. 275.

² *Vide* Scott: *Psychology of Advertisement* and Kitson: *Manual for the Study of the Psychology of Advertising and Selling*.

of physical strength and skill and effort translates itself into terms of effective output, depends far more on other factors than the rate of wages or such physical conditions as the technique of lighting, rest-pauses and so forth. These more influential factors are psychological—a matter of the foreman's temper, of the organized rhythm of the factory, of the general harmony of the worker with the system in which he finds himself a unit. A high wage will not elicit effective work from those who feel themselves outcasts and slaves, nor a low wage preclude it from those who feel themselves an integral part of a community of free men ¹. The physiological factors involving purely muscular fatigue are now fast becoming negligible compared with mental and nervous fatigue, monotony, want of interest, suspicion, hostility, etc. Indeed, the psychological factor must be the main consideration of industry in the future and its importance to-day is shown not merely in movement, fatigue and selection studies, but also in the investigations of economic unrest based on the recent developments of abnormal psychology.

Freudism's Contribution to Economics.

We here meet Freud on a new path. The extraordinary activity of the past three or four years, in the development and use of tests of general intelligence, has yielded a wealth of information with regard to the relation of intelligence to social and economic efficiency. But it now begins to appear that intellectual traits may be distinctly less important than has been supposed in conditioning economic capacity, for instance ². Emotional make-up and interests are, as we have seen, quite as important as intelligence in conditioning work, and thus there is a large field opened up for investigation by psycho-analysis as to how the inhibition of character traits such as persistence and interest in specific vocations and occupations leads to com-

¹ See D. N. Robertson: "Economic Incentive," in *Economica*, October, 1920; and the excellent chapter on "Fatigue and its Psychology" in Swift: *Psychology and the Day's Work*. Compare also the chapter on "Mental Fatigue" in Watts's *Psychological Problems of Industry*.

² "A Group Scale for Investigating the Emotions," *The Journal of Abnormal Psychology and Social Psychology*, vol. xvi., p. 55.

paratively low economic output. Thus a mental test organized for only one specific purpose is found to be inadequate and the need of research along a number of related lines is felt to-day to be pressing. Thus there will ultimately develop a mental test theory and technique that will be consistent with our best knowledge of mental life. Along with the production of an adequate theory of mental measurement, Freudism will also help towards a scientific study of economic pathology and of the conditions of industrial life and management. Thus, along with the psychological aspects of fatigue, attention is being devoted to the closely related field of "functional" nervous abnormalities which is the particular object of psycho-analytic study by the Freudians and others. Nervous disease, to be sure, is still shrouded in mystery. The functional schools have plenty of cases in which their contention seems valid that the difficulty is in maladaptive habits, due to environmental situations giving rise to "conflicts" of motives. Along with the variety of occupational diseases, we have also to enquire into different species of nervous fatigue and occupation neuroses begotten by different forms of industrial vocation. This will lead us to a fresh study of the methods and conditions of recuperation in different vocations: indeed, it is now coming to be recognized that there cannot be any universal and absolute standard for shifts and disengagement at intervals, as sought to be imposed by trade unions and labour conferences. Clinics and hospitals already have begun to specialize on the treatment of industrial accidents and nervous diseases and the study of mental fatigue in relation to occupational conditions. The recognition of the inter-relation of mental and social conditions necessitates close co-operation between the economist and the sociologist and psychologist. There are signs that it may not be long before the large industries maintaining a medical service for employees will have psychiatrists on their medical staff. It is possible that industrial hygiene will soon be extended to include mental hygiene¹. The concept of "mass" medicine, sanitation and social welfare has received special emphasis in the social reconstruction movements of the day.

¹ Rosanoff : *Manual of Psychiatry*, p. 150.

Group Psychology and Distribution.

In the field of distribution, the standards of living of the different classes, the different ways in which economic conditions affect their attitude towards offspring as well as group rivalry and solidarity, are seen as important psychological factors which govern the distribution of the national dividend. For, indeed, group competition has almost superseded individual competition; it thus appears that group psychology will open the way towards the solution of many of the problems of distribution. The neglect of the prevailing dispositions of employers and employees, of the psychology of dominating rivalrous or co-operative behaviour in the course of their work, reveals the inadequacy of modern economic analysis. Not less important are their modes of expenditure—for ostentatious display, for power and influence or for philanthropy, which determine whether the relations between the different grades of society will be sympathetic or resentful. Profit-sharing, co-partnership and industrial self-government have been most successful in those industrial establishments where sympathetic understanding is nearest the full. Veblen has widened the scope of economics in many of these directions, but his brilliant inductive studies have not affected the traditional formulæ of economics.

Industrial Standards in the East.

In the East the relations between the labourer and the capitalist, as we have already seen, were based on social customs and standards which preserved the intimacies and personal feelings and sentiments. The disparity in this respect between old traditions and the necessities of massive impersonal production has added the psychological factor to the labour unrest in the present phase of industrial transition in Eastern countries. Labour in the East in our mills, mines and plantations, moreover, has not yet weaned itself from rural and communal standards, and especially has been showing symptoms of a morbid pathology, which should be treated in a sympathetic spirit that must seek to cure the ills of labour in an alien

environment. The East has still preserved certain vital values and standards which may yet be utilized in a saner and more righteous industrialism. In no other aspect have Eastern standards been more ignored than in the urban predilections of modern economics.

Problem of Urbanism in the East.

In the East agriculture is fundamental, the source of livelihood for three-fourths of the population, and its social values are duly recognized, though at present the tendency to subsidize urban development at the expense of agriculture has been manifest as in the West. Both in the United States and in Great Britain nearly two-thirds of the people live in the cities and towns and the movements to the city have proceeded apace. The low birth-rate and high mortality as well as physiological deterioration of urban populations mean a continuous deterioration of the race and lowering of the level of civilization. The war has shown the danger of industrial expansion and taught that the subjection of agriculture to crises due to urban profiteers and speculators presents a drift too far in the wrong path of urban parasitism, and there has arisen an appreciation of the values of agriculture, its richer rewards of satisfaction for the normal human instincts and its larger outlook to the progress of the race. The variety of the problems of agriculture arising out of each kind of soil, crop or manure, as well as seasonal conditions, keep alive novelty and interest and satisfy the impulses of creativeness and manipulation. Agricultural practice cannot be reduced to routine; thus it nourishes the zest for life, instead of the artificial cravings for stimulants so characteristic of the factory hand; while the touch with nature, cyclical in its recurrence, feeds the affective side of man's nature. The hand here gradually repeats the accumulated practical experience of the race, while the mind plays over the entire gamut of instincts and feelings. Agriculture is thus a humanizing and socializing agency. Agriculture, furthermore, is incompatible with parasitism. It leads to an equitable diffusion of wealth, population, and the products of civilization. It is the corrective of social unrest, because it is

founded on the solid value of the work done, and on a more righteous adjustment of rewards than that obtaining in the present system of distribution, in which we find enforced idleness and enforced labour side by side. Economics has been the formulation of urban interests and strivings, which have always exploited one another, giving us the picture of mutual conflict. To economists land has been a mere agent of production, a form of property or wealth as affecting industry and taxation—and not an environment within which is carried on in harmonious setting the normal life of civilized man, a field for the exercise of the instincts connected with home-making and constructiveness which have played the primary part in developing and maintaining civilization. It is the blindness of the economist to the relations of agriculture to other forms of human activity which has made his science so barren of results towards eugenic and eupsychic reconstruction, and nothing will tend more to bring about practical adjustment of human relations and activities than the reorientation of the rustic, *i.e.*, the concrete, biological, human-interest point of view. Even socialism has adopted the wrong psychology in relation to land. Fed by the passions of the landless proletariat, socialism has emphasized the abuses arising from urban land monopoly and proposes to take away land even from farmers and control it like an “industry” from the city. The repression of so normal an instinct as land-hunger has caused mob outbursts, while the attempt to establish urban proletariat dictatorship over agriculture has wrecked agriculture and the urban industry in bolshevik Russia. Thus has abstract reasoning set at naught imperative human and social values. An interdependent system of rural and urban economy and exchange alone can maintain the structure of civilization. The rural community movement and the co-operative organization are thus in the forefront of social programmes to arrest the disintegrating tendencies of urbanism. The normal balance between agriculture, manufacture and commerce has been disturbed everywhere by the action of mercantile rings and syndicates who speculate in crops, heedless of the food consumption requirements of the agricultural population.

Commercial parasitism is seen in its worst forms in tropical regions where abundant cheap labour is utilized by white capital with a maximum of commercial activity and urban profit. Rural progress starts from rural self-sufficiency and consists in a rotation of multiple crops; while a one-crop system, even while it leads to over-production, does not lead to the satisfaction of the manifold needs of a relatively simple agricultural community. In one-crop systems of agriculture, as in tea, coffee, cocoa, jute, rubber and hemp plantations in the tropics, we find a close approximation to factory methods and regulation, along with the rise of slums and sweated labour, even in the midst of a sparse population. The one-crop system in Africa and Asia has been an agency of oppression and a cause of agricultural depression, and agricultural crises and famines show the dangers of urban exploitation. Indeed, the acute problems of inter-racial economics connected with the exploitation of the tropical and sub-tropical regions arise on account of the disturbance of the normal equilibrium between agriculture, manufactures and commerce. Economics ought to give more consideration to the general need of better relations between urban and rural interests. Civilization must conserve the fundamental educational values of agriculture. But economics entirely overlooks them, and in its emphasis on urbanism ignores many other elemental instincts and deeper satisfactions of human nature ¹.

Enlargement and Humanization of Economics.

As the limitation of economics is more and more recognized, that its psychology is not grounded on the wider group of institutional psychology of which it is a part, all attempts to find laws proper to our conduct in mere economic relations will end. There is also the wider compelling recognition that economics studies a type of relation, not a type of motive, and that the psychological law that dominates life must

¹ For the educational values of agriculture see O. F. Cook's "City and Country," *Journal of Heredity*, March-April, 1921, and Mukerjee's *Foundations of Indian Economics*, conclusion, and *Principles of Comparative Economics*, chapter iv., vol. ii.

dominate economics. Thus there is now felt the need not only of a complete scheme of values, but also of the unity of the fundamental motive that sways our economic and our so-called non-economic action.

From every field, accordingly, there has been an insistent demand for enlarging the scope and method of economics. The dominating and universal principle of marginal equivalence is applicable to the wider ethical and social field. The economic valuation is a phase of a wider and more comprehensive process of collective estimate of goods and services. Indeed, economic life touches every phase of human life and aspiration from which it draws its inspiration and derives its interest. Thus it is a mistake to select some instincts or impulses and eliminate others for consideration by the economist. It is in the field of life as a whole that economics must be discovered and studied. This implies a humanization of economics and its treatment as the handmaid of sociology which is far from being yet cherished in the orthodox circle ¹.

“ Price Economics ” Inadequate.

In an admirable analysis of contemporary economic thought, Professor Fetter recently has shown the limitation of what he terms “ price economics ” which has very tenacious roots and springs up vigorously in the writings of authors where it had been blasted leaf and branch. He examines especially the dilemma of Alfred Marshall, the influence of whose book on economic teaching in India has not been quite healthy as encouraging an unreal and speculative outlook. In his price economics, Marshall is a faithful guardian of Ricardoism, though the human element evident in his enquiries and digressions is perhaps the firmest foundation of his reputation in spite of his eclecticism. The neo-classicists still talk Hamlet-like with the skull of an effete Ricardoism on the one hand, and the spectre of the “ economic man ” on the other. Problems of banking and currency, of price fluctuations and crises, may be expressed in monetary or mathematical

¹ For an excellent examination of economic theory in the light of sociology see Wicksteed's article in *The Economic Journal*, March, 1914.

terms, but they touch only the fringe of the real economic interest. For certain purposes averages and indexes may be absolutely useless. As a statistician observes, an average or an index cannot be used when the exact wage conditions of an industry or a locality is the fact to be ascertained. For the study of the broad tendencies, an average still represents a very convenient method and when the tendency studied applies to many industries and many localities, nothing can supplant an index number. It must be remembered, however, that averages and index numbers should be applied not merely to the study of the world of labour as a whole but also more usefully to the investigation of wages and hours of labour in different occupations, localities and grades of employment, even as the new economic psychology should obtain its data from the variety and heterogeneity of types of labour and its behaviour, and their relation to the technological conditions of particular industry. Thus the average and index have and must have reference to one of the important issues of a concrete economic environment and its diverse and specific reactions on man and his welfare. Such reactions differ in different situations and social facts are the outcome of these ever-shifting reactions which, however, work within the limits of the adjustment of chemical, vital and mental forces maintaining the equilibrium of the organism in relation to the stimuli. The fundamental basis of the new method will be the principle of adaptation, which, being the essence of all economic tendencies, exhibits a manifold variety in diverse economic situations, and therefore defies mathematical treatment. Thus, the physiological cost of labour and the organic demand for energy available from material goods ; the satisfaction value derived from labour as creative activity and from consumption as mode of enjoyment, which are matters of social and individual valuation ; the concrete economic situation with its complex processes and phenomena and their reactions on man and his instincts, motives and welfare,—these and other problems which gravitate round the very centre of economic interest cannot be moulded in a Procrustean bed of classical or neo-classical formulæ, averages or indexes.

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CHAPTER IX

THE GROUP CONCEPT

Break-down of Individualistic Economics.

We have seen that the root fallacy in economic theory lies in the fact that it grounded itself on a psychology based not upon the concrete interactions of persons and their surroundings, but upon a logical analysis of the capacities of the individual mind. It neglected what constitutes the social situation and the cultural environment which influence and dominate the individual born into them. Such a social situation is interpreted, by a recent writer, from the standpoint of organismic psychology, as a group of reactions of people to certain stimuli, and the products of such reactions to various things, which have become traditions and institutions. It is only upon such a basis that we can understand the interaction of persons and their cultural surroundings. Moreover, upon such a basis we can attain a definite understanding of the nature and functioning of institutions in their various ramifications in group life ¹.

An individual apart from his group life is restricted to the mere biological level. To the individual, the group is a stimulating situation to which the individual responds, even as he responds to an object. Biologically speaking, this response is far more important to him, in his struggle for survival, because it binds him to fellow man and thereby increases his capacities. Psychologically speaking, it is embodied in specific types of conventional behaviour, attitudes

¹ J. A. Kantor, "The Institutional Conception of Social Psychology," *American Journal of Sociology*, 1922; "The Institutional Foundation of a Scientific Social Psychology," *ibid.*, 1924.

and a sense of values, which remake the individual mind. Thus the group becomes a methodologically valuable concept in social science. It enables us to explain social facts not by absolutist principles but by more positive conceptions derived from biology and psychology. Secondly, it supersedes the old individual fallacy by emphasizing instead the inter-relations between members of a group, which explain the individual more than any other method of approach can do. Classical economic and political theories centred round the individual among other individuals, and made much of the conflict of individual motives and behaviour. Social psychology now finds a basis for the social sciences in the inter-social stimulation occurring between members of a group which gives us the key to the mental process. Thirdly, it corrects the narrow view that man's instincts are as invariable as those of lower animals, from which has proceeded the attempt to trace social phenomena mainly to instinct. Both original nature and the social inheritance play an important part in social phenomena to which they represent two sides. In the past the social sciences believed too much in the simplicity and unmodifiability of human nature. With our new insight into mind we realize that "original nature may vary over time as in progress, or by races as in race problems or by individuals as in crime or insanity or by particular motives as in politics and economics". Social psychology no longer regards the isolation and primitiveness of instincts as a fact but examines the co-ordination and discipline of instincts and satisfaction values underlying the approved and group-sanctioned patterns to which human conduct in the main conforms. Its starting-point is no longer the relation of the partially segmented individual to an abstract society, but the unity and inter-penetration of institutional selves in the fully integrated human being. It studies the several specific varieties of habitual behaviour and their aggregate or group occurrence as contrasted with the study of the individual's habits, or of the simple or atomic instincts. It also investigates abnormal conditions arising out of inner conflict and institutional maladjustment. It is a change

from deductive analysis to a concrete experimental study of the particular social situation which environs the individual mind. In older economics, the belief in a permanent human nature in the form of a mass of impulses and in the antagonism between social and individual behaviour went hand in hand. Economic analysis has not as yet weaned itself from the obsession of the Darwinian theory of competition and natural selection, which has made much of the competitive and neglected the co-operative system in organic evolution. This has strengthened and been strengthened by the older interpretation of individual behaviour by rational motives. Indeed, both these strands of thought are hardly discernible in the web of economic individualism which economic science has woven, and which has cast its spell over every field of human endeavour.

That spell now has been broken after the strife and unrest which followed the unregulated development of capitalism and financialism with its inevitable Nemesis of individual and social revolt. And to-day in the West we see communalistic experiments of group organization which seek to check the evils associated with the centralized absolutist structure in polity and industry. But co-operative production has ceased to progress while organized unionism subordinates political lines to class interests and practically abolishes the older political order. Guild socialism and syndicalism are to-day each loudly advocating schemes of reconstruction on the basis of the group organization of the economic life. In all these schemes of industrial reconstruction, however, the inherent rights of groups are asserted and emphasized in the same way as the natural rights of the economic individuals of the *laissez-faire* days, while in the attempt to bridge the gulf between the labourer and the capitalist, the unskilled proletariat and the specialized worker, the social strife is repeated in another and perhaps a more extended field by ranging the forces of production against the army of consumers and brain-workers. This will be the inevitable result of adopting the syndicalist plan of the substitution of the economic control of producers for parliamentary control by the con-

sumers. The guild socialist's notion of two states is similarly inadequate, for it does not present a practical solution of the difficulties that will arise in case of the conflict between the federation of trades and guilds on the one hand and the organization of the consumers on the other.

New Basis for Economics.

The new economics must base itself on a more organic view of group life, and relations. Guild socialism and syndicalism break up the economic man into divergent and conflicting fragments which refuse to reunite in the political order. Socialism invokes the all-obtrusive authority of the State, with its inspection and inspectors, for compelling their co-operation in the exercise of the general will of the community it represents. Indeed, all these movements originate from a vicious hypostasis of man and his functions: only the calculating and hedonistic man of the classical days has yielded his place to an aggressive and intimidating economic man. The new economics will avoid these fundamental errors and base itself on a new type of group life which takes into account the whole man and fuses any divergent and conflicting interests by placing the individual in the communal centre and the communal interest in the centre of the individual life. It will develop the concept of man as an evolving social being who satisfies his needs by complex social co-operation and whose activities are not so mechanical as those of the individual cells in the cell-association of the hydra and insect type. A human association is not a mere economic aggregate; it springs from deeper and more dynamic impulses, which will determine economic standards and institutions and place the life economic in a harmonious setting of the ethical life of the community. Economics will thus satisfy the inevitable and growing demand of the corporate social personality of man, so much repressed by the modern economic organization. Indeed, we are witnessing to-day far-reaching changes in the economic organization itself. Industry is bound to be co-operative and creative in a much fuller measure than we now imagine. The future does not belong to State-socialism,

for we already see a movement in the West towards the delegation of the authority of the State to the great trade unions. The nationalization of industry in the phase at present before the industrial leaders has obvious difficulties. Yet through socialism and syndicalism, guild socialism and organized unionism the West is steadily approaching towards the new industry and the new society in which the industrial groups will be better oriented and there will be neither any industrial compromise and forced acquiescence resulting in strikes and lock-outs, nor any dissociation of the groups involving economic and social anarchy.

Change in Economic Outlook.

To-day the new group psychology, the new ethics, the new politics and the new jurisprudence are based on a new conception of modes of association and of integrated individuals acting in groups. They are all giving up the tattered garments of the nineteenth century figment of the isolated man, though owing to an imperfect conception of synthesis the sectional view of the social organism is reappearing in other guises. Indeed, the whole anti-intellectualistic tendency and the trend of philosophical thought towards pluralism have to-day swept away the basis of that logical abstraction on which economics has rested. The reinstatement of man's composite personality and healthy and progressive group life and development insistently demand more adequate and scientific economic concepts. This demand is being met in other humanistic studies, and economics also must yield to it. The change in outlook becomes slowly and unwittingly manifest in economic analysis though it has not entered the pale of orthodox theory.

Enlarged Conceptions of Economic Life and Value.

(1) In the first place, economic life has now ceased to be looked upon as apart from the general conditions, psychological and biological, which surround society. The historical school took a sociological view of human nature from the very start. Roscher says: "National life, like every other form of existence, forms a whole of which the different parts are

very intimately connected. Complete understanding of a single aspect of it requires a careful study of the whole. Language, religion, arts and sciences, law, politics and economics must all be laid under tribute." The new school looked for a unit larger than the individual and found it in the society of all ages¹. As Knies puts it : " The historical interpretation of economics rests on the belief that economic theory is a product of development, is intertwined with the whole social organism of any given time and place and its circumstances, gets its arguments from the historical background, leads to periodically changing solutions though it is a progressive manifestation of truth, remains imperfect in sum and character, and always, even when accepted as an absolute truth, illustrates merely the general historical principle of the spirit of the times."

The criticisms of the historical school have brought to light the importance of sociological premises in economic theory ; indeed, the larger outlines of sociological economics have begun to loom up in the monumental work of Gustav Schmoller, in which natural environment, ethnology and psychology play a larger part than purely historical and statistical observation. Wagner recognized the need of a sociological premise such as a certain distribution of legal rights for using our instincts and reason. Dietzel emphasized a sociological postulate like the choice between a collectivistic or an individualistic order of society standing out as all-important. These premises became admittedly " mere working devices, ceased to be what they had been for the older Utilitarians, and indicated interestingly the Historical learning which motivated so many Socialists of the Chair."

The science of sociology proper has emphasized the influence of many non-economic forces which continually obtrude themselves upon the student of industrial conditions, such as custom, invention, imitation, standards, ideas and the like.² These represent the social instincts and traditions

¹ Boucke : *The Development of Economics*.

² Compare in particular Ross's *Foundations of Sociology* and Summer's *Folkways* ; also Ellwood's *Sociology in its Psychological Aspects*.

of a community which are compelling drives in human conduct. The economic organization cannot in this view be understood apart from the group organization of life and the group scheme of values; the problems of industry are seen to be primarily human and social problems and secondarily material.

Economic Value from the Standpoint of Group Psychology.

(2) Secondly, there is dawning the group concept of economic value. Economic value, like moral or æsthetic value, is coming to be looked upon as the outcome of the collective judgment of some human group or other, and, as such, coming under the ken of the social psychologist¹. The social nature of economic value being once recognized, it will cease to be interpreted in mechanistic terms of the operation of the forces of the individual utility and cost. The Austrian school showed the insufficiency of the classical English theory of value and emphasized the connection of economics with psychology, but their psychology was faulty. Each individual mind is shut up within its own limits, inscrutable to other minds, and for these writers there can be no psychological phenomena which include activities in many minds. Modern psychology says, on the other hand, that the individual mind does not develop save in the presence of the social mind. Baldwin says: "The self of the individual's self-consciousness is, in its materials and processes of formation, thoroughly social in its origin. The individual is found to be a social product, a complex result, having its genetic conditions in actual social life." So, also, of individual psychoses. "Consciousness is a thing of functional evolution in the race and of personal development in the individual." The concepts of value and price, utility and demand accordingly undergo important modifications in the hands of social psychology. Attempts are made to put a sociological foundation under the economic structure which has been reared on an individual-

¹ Compare Dr. B. M. Anderson's *Social Value*, Dewey and Tuft's *Ethics* and Everett's *Moral Values*.

istic psychology. Cooley, for instance, deals with the subject of pecuniary valuation from the group or social standpoint. The market is a group phenomenon which creates its own values as much as or more than they are created by individual demands. It is an institution which has an existence of its own and bends individual desire to its own likeness. The discussion is significant in its attempt to substitute a group conception of the problem for an individual one¹. Anderson's *Social Value* is an illuminating illustration of the beginning of reconstruction of economic theory due to an application of the group hypothesis. Indeed, it is an ambitious effort to apply a functional social psychology to the value problem². The effort to explain value by marginal utility—by the satisfaction which an individual derives from the last increment consumed of a commodity—is given up. Anderson says that the effort to pick out feeling magnitudes, either of pleasure or pain, in the minds of individuals, and combine them into a social quantity, leads to circular reasoning. He frankly admits that he sets out on the quest of a theory of social value on the basis of the social psychology of Tarde, Baldwin, Ross, Le Bon and Cooley. In the first place wants are socially determined, they grow out of a give and take, a social process. Given these wants and given their marginal interests, there is, over and above these, influenced by them in part, influencing them much more than they influence it, a social value for each commodity, a product of a complex social psychology. Law, moral values and economic values are species of the genus, social value; they are parts of a social force which governs the action of men. Even in the orthodox camp, it is coming to be recognized that the concept of marginal utility, and the balancing of marginal cost against marginal utility, are elusive and too unrealistic to be of much practical interest. The value of each good depends upon its marginal utility, not to each individual consumer, but to the social group of consumers to whom it is an object of

¹ Cooley : *Social Process*.

² Cf. Group Concept in Ward's "Dynamic Sociology and Contemporary American Sociology," *The American Journal of Sociology*, 1921.

economy. Again, most goods are not simple utilities, but bundles of utilities, so their value is the result of a collective rather than individual calculation of marginal utilities, which latter has loomed so large in the theory of the Austrian and neo-classical school. Social valuation differs from that of the individual in that there are as many separate valuations as there are separate utilities in the goods, and that each separate step is taken by a different social group. That something social and objective exists in the market-place, can hardly be denied ; but, when pressed for an account of it, these writers reduce it to a bare, abstract, mathematical ratio. As a matter of fact, the unvarying characteristic of a social fact like value is that it cannot be measured quantitatively and explained by mechanical laws ; though the neo-classical school, following the mathematical economists, such as Wallas and Jevons, still stands on this and insists that only thus can economics be a science¹. It has developed a doctrine of socio-psychical measurements which is, indeed, contradicted by everyday experience. Thus, the theory of marginal utility, which is the very corner-stone of modern economics, will be found to be roundabout and difficult of analysis, the more we understand the group, or collective process in valuation. Indeed, the concept of marginal utility as developed by the Austrian school is based on the old psychological hypothesis of the isolated man and can serve no longer as the basis for the theory of value and of distribution. The economic man guided by the dictate of reason is still the unit of the valuation process in the neo-classical school. The new psychology has replaced the economic man by a more real concrete being, governed by instincts and impulses which he has derived, not from reason and self-

¹ Wieser asserted that "the wants of an artist differ only in degree from those of a hungry beggar." Pareto expressly singled out exchange valuations from the moral and theological as being the only measurable ones, *i.e.*, measurable in the sense Jevons had himself explained. Even Patten, a critic of the marginal system, nevertheless believed that "a theory of prosperity assumes not only that pleasures and pains are commensurable, but also that a comparison can be made between the pleasures and pains of individuals living during different periods." See Boucke's *Development of Economics*, p. 259.

interest, but from a long process of adaptation to the group or society as a whole. It is, therefore, to the group or the social mind that we should attribute the process of valuation, and any theory that bases itself on individual and marginal utility or individual or marginal cost is not only abstract but is also fallacious inasmuch as it reverses the process of valuation. The value put on a commodity by the group or society as a whole is prior to individual utility which is included as an element in social utility. Marginal utility is an individual phenomenon, and as such it is only a subjective estimation not yet translated into market value. And, indeed, this is recognized by Dr. Marshall when he says that in estimating market value the concept of individual utility cannot suffice.

Again, sensation is regarded as at the root of individual utility, though this concept is utterly repudiated by modern psychology. The economic motive is still attributed to a bundle of sensations as the marginal school assumed it, not to the instincts, impulses and values of men in a *milieu* of social co-operation. This is the reason why the Austrians reduce cost to utility and eliminate consideration of what may be called pain cost. Marshall avoids the emphasis of utility of the Austrian marginists; with him it is only one side of the arch, one blade of the pair of scissors with cost as the other. This is really what it is in actual life. Yet how much of Marshall's roundabout and hypothetical reasoning would have been saved if he had based his analysis of both utility and cost on the impersonal social process which would allow no gap between individual desires and the phenomena of the market value. This gap has been bridged by the successive hypotheses of opportunity cost, social marginal utility, social cost, subjective exchange value and all the rest. Marshall's employment of the term "utility" instead of "value" has a meaning that fluctuates between objective usefulness and subjective valuation and shows his utilitarian bias. His assumption of the homogeneity of goods requires a good deal of stretching to be applicable to ordinary cases, while the assumption that the producer sells because of the diminishing utility of his goods is an unreal hypothesis due

to the Austrian proclivity to reduce cost to utility, or at least to fuse both utility and cost in a common subjective crucible. Similarly, his conception of the demand curve fails to explain market values because these are more or less stable products of the collective judgment rather than fleeting phenomena of individual psychology. Indeed, in spite of his distinction between short period and long period values, which by the way is Marshall's deviation from a barren intellectualism, he still perpetuates the error of converting an abstraction into reality. Throughout the analysis of value it is presupposed that value is a quantity in a mathematical sense which can be exactly measured in terms of foreseen net pleasure. Value, however, is essentially a social product, and it may or may not move towards the direction of pleasurable sensation. Even when it is related to such sensation no quantitative relation can be scientifically demonstrated.

The individual hypothesis cannot, indeed, furnish the standards for rational valuation in the market. The force of social and legal machinery, of group standard and public opinion can be disregarded no longer in analysing demand. It is true that the historical school swept away that rampant individualism in which the pioneers in economics revelled, but the identity of individual and social emotions and interests at all vital points, which has been the emphasis of the new functional social psychology, did not dawn, and thus the antithesis in economics between social standard and individual judgment, social control and individual behaviour, still remained. Thus, economic theory worked on the basis of a direct and systematic control of individual actions and could not realize the significance of vitality of group life and organization as re-making man and re-defining his values.

An institutional approach to the theory of value is a much needed corrective of the abstract individualistic theory developed by modern economists. The ancient absolutistic ethics is now superseded, and the ideal of social progress comprehends the divergent life history and values of different peoples and cultures. Thus, regional programmes and aspects in economics looked at askance by orthodox writers appear,

and the basic physical and biological factors in economics are worked up by the synthesis of life and history to the various social and economic laws which govern different social and economic environments.

Production : Co-operative, not Specific.

(3) The social conception has a far-reaching significance for the problem of distribution. The calculation of the cost of production is a complex process. In modern industrial society, where production is indirect or roundabout, the same productive services involve different degrees of sacrifice for different producers, who are all indispensable and yet who may be of unequal importance in the co-operative process of production. Their costs accordingly are quite different, and are sought to be measured by the sacrifice to marginal producers or those whose sacrifice is greatest. The calculation therefore becomes so complex and the reasoning so circular that its influence on values is not easily established ¹.

The productive process is, by analogy, an organic process in which every factor requires the co-operation of every other factor to turn out even the smallest portion of the product ². Each factor is, in its own order, the cause of the whole product. Consequently, no physical portion of the product can be set aside and designated as wholly due to any one factor ³. The method of ascertaining specific productivity of capital or labour, however ingenious and subtle, is thus too arithmetical or mechanical, and misses the essentially organic and co-operative character of the productive process ⁴. Again, as in catalysis the presence of a particular agent speeds up the chemical process without itself undergoing an ultimate change, so the industrial process may be accelerated by co-ordination, which may thus increase the proportionate economic value of each factor to the industrial establishment. The mode of co-operation of the different factors increases the total

¹ For some of the intricacies of the problem cf. Seager, *Principles of Economics*, pp. 97-103.

² Ryan's *Distributive Justice*, p. 347.

³ *Ibid.*, p. 347.

⁴ Proceedings of the 19th Annual Meeting of the American Economic Association.

productivity, though the proportionate productive influence exerted by each factor and the proportion of the product which represents such productive influence cannot be distinguished.

The concept of co-operative productivity thus may serve as the indispensable corrective of the theory of specific productivity. Its basis will be the recognition of the value of a scientific co-ordination of the agents of production, and its applications will be seen in the setting apart of a portion of the profits of the industrial establishment as a whole for the upkeep and maintenance of each agent as an essential and integral factor in the productive process. Each such factor must be maintained in productive efficiency in the future in order to maintain the continuity of the whole process. In the case of capital the productive agent is not human or active, but only material and passive. The productivity of labour differs in this respect, and the difference is ethically sufficient to justify the claim that the labourer may sometimes have a right to a part of the specific product of capital. The specific productivity is unproved and unprovable; the agents of production are, to use Durkheim's expression, *solidare*. They never act independently, but they unite in the productive process, giving ever greater opportunity for division of labour and the play of the cohesive force based on "consciousness of supplementary difference". Durkheim's concept of social solidarity is of great value in its applications to the economic theory of distribution. The truth is becoming clear that there is surplus conjunctural income added to the industrial process by co-ordination and "socialization" of the factors of production. This is, indeed, the incentive to the productive process and has brought about the progressive co-ordination of the agents of production in economic history¹. This conjunctural income is no simple composite of the economic values of the factors of production, though it is none the less outside them. It is part and result of the economic order and has its organic inter-relations with all phases of social life. The social income in economics corresponds, therefore,

¹ Professor Wicker, quoted in Ryan's *Distributive Justice*, p. 351.

to a social mind in sociology, distinct from the individual mind, and a psychical something over against the individual which determines his life at least in general outline. This social income is the result of the general and most primal fact of associated production. It partakes of the nature of an unearned surplus to which not merely the groups in the productive process, but also the social community, have a right; and indeed this right is being recognized in the contributions of industry to the ends of education and social welfare. The recognition of this right furnishes us with a real principle underlying the canons of taxation which should base itself not on proportional ability to pay nor on proportional sacrifice, but on the extra advantages accrued from the fact of social solidarity, whatever the mode of measurement might be. Indeed, the concept of social income will prove to be of great theoretical and practical significance if elaborated in detail. Karl Marx calls this social income "surplus value" and attributes it to one factor only, labour, and not to the co-operative process as a whole, and demands that this should go to labour. He observes that surplus value or income makes its appearance as soon as the product exceeds what is required for the labourer's bare subsistence, and that it manifests itself in all the economic forms, however much these may vary in measure, kind and method of application¹. Much of this kind of reasoning, indeed, forms the basis of labour's demand for the whole produce. To-day the classical socialistic demand of labour as forming an undifferentiated proletariat is giving place to separate demands of diverse labour groups and organizations. In economics to-day we

¹ The reasoning of the brilliant Italian economist, Loria, is vicious for the same reason. He believes that the coercive association of labour gives rise to an excess product over and above the subsistence of the producer, theoretically or practically separable from this subsistence. Though he rears his economic synthesis on the basis of economic individualism, he yet realizes that income is the outcome of a fact common to all the ages—the fact of associated production, and it is the one among the economic elements which has the most eminent sociological value, since it is an attribute, not simply of a more or less limited fragment of human society, but of a notable proportion of that society, sometimes even of the whole. Compare *The Economic Synthesis*, p. 32.

have the specific productivity theory of labour groups, even as the isolated individual of the classical school has been superseded by the close-knit labour union. But the true theory of distribution is based neither on the supposition of individual nor of group utility or costs, but on the recognition of the unity and integrity of the *productive* process as a whole, and it subordinates the determinate distribution of the product to the original and primal fact of the co-ordination of all the factors. In the theory of wages the recognition of differential social advantages in different occupations and the preference of men for certain occupations as being suited to their instincts and impulses is an instance of the imperceptible invasion of the group idea into the dominion of classical economics. Moreover, the concept of capital as a continuous flow and of labour as not merely a consumer but also a producer of values has militated against that mythical rationalism which has been the basis of the classical and Austrian schools and which made the determination of wages a question of arithmetical division. Lastly, unions or groups of labourers have wrested from the individual establishment earnings which previously were supposed to be determined only by what labour can add to the net product. All these developments of the group idea have swept away the logical abstraction, which, moreover, had been undermined from another direction by the modern anti-intellectualist trend.

Group Utility and Remuneration.

The concept of social utility which the new psychology gives and which, as we have seen, lies behind the valuation process, will be more useful in the determination of the social utility of each group. The principle of equi-marginal energies which is a corollary from the principle of substitution of energies involves not merely net economic productivity but also social services which each group concerned in the productive process renders to society as a whole. In other words, the remuneration of each group corresponds to the social utility or the collective estimate of its services, which is no simple composite of the economic productivity of the factor, though

it is none the less outside it, and indeed works itself out through but beyond it. Here, again, the social hypothesis is essential. Labour, or capital or any other factor, is to be regarded not merely as a unit in the productive series, but as such it has also its organic inter-relations with all phases of social life which have not been sufficiently recognized by the neo-classical school on account of its neglect of instincts and emotions,—man's social and institutional side. It is these which superimpose the social estimate upon the economic field, and, indeed, the economic valuation is simply a species of valuation which is determined by the interaction of other aggregate values such as social value, ethical value, institutional value, etc. And it is here that we once again realize the impossibility of reducing socio-psychical phenomena to mechanistic terms.

New Economics of the Group.

Indeed, the futility of abstract economic finalism which based itself on the logical introspection of the old school became evident as soon as the group became an important factor in economic life. There has come forward, of late, the group concept of the standard of living and hence the practical demand for the group standard of wages. Groups develop a conscious group-will and a well-marked group-individuality. This is particularly true of economic interest groups, which achieve organization and solidarity under the strain and stress of industrial competition. They sometimes even aggrandize and exploit weaker groups. Thus the standards which they demand and realize cannot be understood from the old reasoning on the basis of economic individualism. Indeed Marxism, syndicalism and the like, are, in one sense, exaggerated phases of anti-intellectualism in economic theory, based as these are on the view that there has been no more potent force in social development than the class consciousness of economic interest groups. With the rise and phenomenal success of unionism, modern industry is gradually moving towards group management. Capitalism controlled by groups will usher in healthier group life and activity. The faulty psychological analysis which breaks up the whole man into

divergent and conflicting fragments was associated with the capitalistic individualism that is slowly disappearing. It will be superseded by a new method which will recognize the value of group process and relations in economic life. Deep-rooted, vigorous group instincts whose suppression has led to strikes or sabotage, or which have asserted themselves in the joy of selfish mastery and domination of one class or another, will be transferred to proper and useful channels of economic activity.

Group Ideas and Group Needs.

The recognition of the imperative need of group life and expansion is introducing new notions in ethics and jurisprudence. Industrial law, for instance, is undergoing important modifications. Trade unions began in secrecy and often were maintained by violence. Later, when unionism became organized, the State was bound to recognize it, though the recognition has been granted very grudgingly. The obstructions to the legal evolution of the economic group now come either from the class bias of the judiciary having power to declare illegal and *ultra vires* any act passed by the legislature, as in America¹; or from the legislature itself, which prevents a regrouping or amalgamation of the union organizations, as in England. The real reason of the legal opposition is that present industrial law is based on the eighteenth-century philosophical individualism of Europe which never could anticipate the present-day complexity and interdependence of individual and group relations. Professor Commons, in his remarkable work, *Legal Foundations of Capitalism*, has shown that the anomalous situation from the legal viewpoint has been created by the rise of labour organizations, which have thrust themselves as third parties into the private negotiation between employers and their individual employees. Yet the intervention of the third party is made inevitable by the pressure which capitalism puts upon wage-earners. Industrial government is built on economic coercion; its extreme penalty is poverty. Thus there is needed a new

¹ Robert F. Hoxie : *Trade Unionism in United States*.

equity—an equity that will protect the job as the older equity protected the business. Already employers and unions are gradually building up new and tentative customs, which recognize restraints on free competition for jobs in the interest of fair competition, which check personal discriminations, and which give labour an influence upon management. Professor Commons's dictum is as follows: The ultimate unit of economics, ethics and law is a transaction involving a minimum of five persons. A theory of transactions recognizes that men do not deal with each other merely as individual citizens; they are organized in groups political, economic and cultural. Such groups are going concerns. When law makes a transaction its ultimate unit, there will come a change in the domain as well as contents of economic law. Group suppressions and the antecedent phenomena of unofficial trade unionism or direct action, secret societies, or unemployment outbursts will persist till a new legal basis and framework adapted to the present economic situation are formulated. Unless the sacredness and inviolability of individual contract, the absolute rights of the individual employer and worker entrenched by constitutional private property guarantees based on the exploded theory of Natural Rights cease to be the touchstone of absolute justice, the above phenomena will be of common occurrence. Indeed, the coming sociological jurisprudence, which will be enlivened by the notion of social service derived from the fact of economic solidarity, can alone belie the fact that unionism to-day is in its very essence a lawless thing, in its very spirit and purpose a challenge to the law. Such a sociological jurisprudence will be strengthened by the conclusions of the new psychology of society. Social psychology will study abnormal psychical conduct due to the suppression of elemental and perennial desires. It will explain, for instance, the revolt of labour unions against bureaucratic methods, the protest against scientific management, the conflict between status and contract, the struggle of opposed vested interests, etc. But this aspect of the group suppressions has hardly been investigated from the standpoint of the new psychology.

Group Formation and Group Interests.

A recent writer thus has applied some of the concepts of the bio-genetic psychology to the interpretation of the familiar phenomena of group organization. Whenever an environment is such as to stimulate a similar set of behaviour mechanisms with similar effects in a considerable number of people, group formation has its natural soil. There seems to result naturally awareness of wants, consciousness of kind, and collective behaviour. But the individuals in a group may be in it from fundamentally and widely variant motives. Even in the case of frankly economic groups the motivation may be very complex. The economic motive itself is built up of various simpler motives rooting in instinctive mechanisms of behaviour for which there is no release at present excepting through economic channels.

Groups are regrouped in larger groups with less definite bonds of common interest but interrelated by individuals who belong to more than one sub-group. The more thorough and complex the system of interests and of interrelated, wish-fulfilling groups, the more advanced the evolution of society. Progress however, of course, involves increasingly harmonious and economical readjustment, rather than mere complexity. Justice also is the harmonization of wishes and of wish-fulfilment. The so-called pluralistic state solves the problem of freedom and fulfilment by the distribution of sovereignty and loyalty; and economic freedom and value may be interpreted in terms of wish-fulfilment mechanisms, often unconscious.

Thought, closer study of environment, theorising, point out to group leaders ways in which the unfulfilled or thwarted wishes of the given group can be fulfilled, if possible without thwarting the activities or desires of any other powerful group.

All theories, including economic theory, are based ultimately upon the wishes themselves¹ rather than upon their means of satisfaction, which is itself often the subject of

¹ Value might be defined in terms of power to fulfil or thwart wishes, one's own or those of others.

theorization ; and the theories of a group, therefore, in some cases may be as sincere as any theory can be, when held by a whole group, even though they may not refer to economic changes, appropriations or acquisitions necessary to their fulfilment ¹.

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CHAPTER X

THE MEASUREMENT OF THE AFFECTIVE PROCESSES

Conceptualism, the Enemy.

A recent writer has observed : "Conceptualism is the particular bugbear of the social sciences as, a century or two ago, it was the bugbear of the natural sciences. Unhappily the Spencers, the Mills and the other social scientists have not been able to clear away the fogs of opinion, prejudice and belief as Lamarck and Lyell and Darwin were able to sweep them from the field of natural science. There was a sharp struggle and quick victory in the one case ; but in the other the victory has been neither clear cut nor permanent. Conceptualism still haunts the seminars of history, philosophy, political science and sociology ; but none of these suffers more severely than economics." ¹

An abstract concept of human nature derived from insufficient personal observation and deductive analysis has woven a maze of concepts which has now led to a divorce in the social sciences between the realities of the social order and the interpretations of human nature. Nowhere has this divorce been so harmful as in economics where the hardening of materialism has helped the incrustation of the acquisitiveness of modern society in the Procrustean bed of logical formulæ. Thus in the realm of economic theory, the need has been felt to transform the psychological categories derived from inadequate observation and introspection into objective realities which may be tested and measured in the laboratories. Hence the laws of

¹ Tugwell : " Human Nature in Economic Theory," *Journal of Political Economy*, June, 1922.

demand and supply, which govern value, must yield themselves in the new theory to a deeper interpretation than that which the hypothesis of an enlightened self-interest and choice can recommend. Marginal utility and cost, for example, have to be rescued from so partial and indefinite a version of human conduct as the old theory furnishes. It is realized also that the psychological analysis has been over-simple and the difficulty of separating the different and numerous factors is now gradually being brought home to the modern writers.

Marginal Utility Theory.

The inconsistencies and contradictions of the marginal utility theory have been discussed by many writers. Indeed, the determination of price by marginal utility determines nothing, since there is no such thing as social utility apart from individual estimations, and these last cannot be measured by any common denominator other than price itself. Thus the reasoning becomes circular, and nothing is gained by explaining price, marginal utility and marginal cost as inter-dependent on one another. Carlile has shown that the difficulty of the Austrian theory is due to its involving a continual attempt to express the variation of demand for a commodity on the part of the subject in terms of the "utility" of the commodity regarded as a property of the object. Thus the theory endeavours to use adjectival forms, predicating properties of an object, in cases where every one else would use verbal forms, predicating variations of sentiment or desire on the part of the subject¹. Secondly, the concepts which modern men gradually have learned to use are treated as if they are a matter of course, an integral part of a man's native endowment, something generically human. Veblen's criticisms expose how the whole money economy, with all the machinery of credit and the rest, disappears in the writings of the marginal utility school in a tissue of metaphors, to reappear theoretically expurgated, sterilized and simplified into a refined system of barter, culminating in a net aggregate

¹ Compare my *Principles of Comparative Economics*, vol. i., chapter ii., and Carlile's *Monetary Economics*, chapter i.

maximum of pleasurable sensations and consumption. Thirdly, the hedonic bias has made it easy for the economists to leap past pecuniary concepts in their haste to reach the marginal utilities assumed to lie behind them. As Mitchell says: "This formulation of the mental operations of an ideally perfect money-maker can be converted into a passable formulation of Bentham's hedonics by merely turning pecuniary into psychological terms. Substitute pleasure for profit, and pain for loss; let the unit of sensation stand for the dollar, interpret self-interest as the maximising of net pleasures instead of net profits, and the transformation is complete."¹

In brief, the marginal school accepted the concept of an economic man and of hedonism as indispensable, and measured the interactions between individual minds for its important conclusions. Feelings were to be measured indirectly. Prices alone could inform us as to want intensities, but since these are bound to represent increments of pleasure and degrees of utility, utilities at the margin could be said to determine prices. Wants, feelings, utilities, pleasures, happiness and purchase were all deducible from certain laws of the individual mind and emotion from which economics started, and on the basis of which the science would give certain logical conclusions, even as mathematics went about its work on the basis of certain axioms and postulates. Thus economics developed as a conceptual science on the order of mathematics. Menger observed: "The essence of exact science in the field of ethical (*i.e.*, social) phenomena consists in that we reduce social phenomena to their simplest elements, measure them by a standard suitable to their nature, and try to find the laws according to which these elements, pictured as in isolation, give rise to more complex social events. Whether the individual factors actually exist in isolation or are really measurable exactly is of no importance in social science any more than it would be for natural science." Thus, as Boucke says: "According to Marginism everything depended on our having an index of those psychological forces that Hume and Mill had tried in vain to subject to experimental methods. Ratios are not

¹ Quoted in Carlile's *Monetary Economics*, p. 10.

absolutes ! Fractions not entities ! Differentials not totals ! Margins not initial response or satisfaction ! Here were contrasts to conjure with and to exploit in a scheme of pecuniary comparisons.”¹

New Economic Standards Necessary.

The claims of economics to precision born ultimately of sensationalism must be given up. How man values a thing, and how price takes the place of want, no longer can be regarded as simple psychological facts connected by a long chain of causation in which pain and pleasure, with feelings and wishes and utilities and other abstractions, are marshalled in a series for a definite purpose.

Behaviourism has laid its stress on other factors than pain and pleasure, or sense impression, and interprets want and value in terms of biologic instincts and impulses or instinctive mechanisms of behaviour, as well as activities and desires of the group the reactions to which are hardly conscious.

Suggestions for the New Theory of Economics.

With the passing away of old harmful conceptualisms a reorientation has become inevitable, though so far we are having tentative suggestions for the new theory formulated here and there in a fugitive manner.

(a) *Behaviouristic Standards*.—In behaviourism, economic value is analysed into the following elements: There is first to be considered the elemental impulse stimulated by the instrument calling out responses in an individual, but whose satisfaction is limited by the physical world or by similar herd responses to similar stimulus. Such responses may have unconscious mechanical backgrounds due to the elimination of undesirable responses through trial and error, and may be crystallized into social habits and traditions, which embody more expressions and fewer frustrations. They also may be acquired complexes, the intelligence modifying the responses in the direction of foreseen satisfaction. There are also forecast and choice. In spite of limitations imposed by

¹ See Boucke : *The Development of Economics*.

nature and by the herd standards, which are reinforced by education and social inheritance, there is a wide field for the fulfilment of impulses, *i.e.*, of alternative choices. For the instincts are never found in isolation but are mingled with one another in action, though one of them is in the fore-consciousness and gives the colour and tone to the effort. There is mechanical and conscious weighing of different alternatives, of utilities as well as of corresponding disutilities, in the final act of choice. The nature of elemental urges, the combination of instinct groups, the nature of alternatives as well as the choice between the alternatives, vary greatly among individuals, classes and peoples. It is here that racial and regional factors enter in the determination of the standards of choice. Again, these are continually shifting, for life means adaptation; and change, which introduces unknown and uncertain elements, is the very essence of adaptation. But out of these we can discover certain norms in which consumption runs and arrive at fairly accurate generalizations as to choice and even weigh relatively the recognizably different quantities of influence in economic effort. Thus, the demands of society may be accurately estimated and measured, and even the responses of business men to the stimulations of their environment.

In the same way, supply is as much a psychological concept as demand. Tugwell asks: "When a seller gives up one thing and receives the wherewithal of the purchase of many other things in return, what part of this act is impulse and what part of it is dominated by a conscious weighing of alternatives? The answer is determined by the strength of the appeal of the things commanded by the money he will get, by the training he has had, by the habitual responses that have grown up in him, by his liking for the acts involved in preparing for market what he sells, and the like. The camouflage phrase 'marginal cost of production' hides a seething mass of underlying questions which can be answered only by the science which has for its subject the behaviour of men. Production is a human enterprise, carried on in part at least for the sake of the ultimate human satisfaction to be gained

by uses of the goods and services produced. It is a complicated process, it is true ; but its analysis is the only possible basis for the understanding of the concept of marginal supply. And it is susceptible of the same reduction to distinguishable norms of behaviour as is the conduct of consumers. Very clearly the only alternative is guess work.”¹

Behaviourism has already furnished facts which provide a significant nucleus for others and which will grow into a later, more complete body of truth invaluable for the social sciences.

The task of the economist in this connection would be to supplement the work of behaviouristic psychology in its analysis of the drives of human conduct, and open the great closed door of economic theory by ultimately turning utility or cost into known quantities, though of course our partial knowledge of behaviour makes this work at present most difficult and intricate. In this task we should not, however, ignore man's response in the direction of rationality as seen in his conduct as a consumer in the fields, factories, homes and markets which will correct the partial view of behaviourism. The latter in its concentration upon the unconscious and biologic responses often neglects such forward drives of human conduct as represented by conscious choice and deliberate forecast. The choice of alternatives also is accompanied by a process of the discipline of instincts, and the gradation of instinct groups in the development of personality which utilizes economic effort, for instance, in the realization of ideal values. There is thus a rhythm in behaviourism seen in the ascent from the unconscious roots of human nature to conscious choice and creativeness which at once precede and arise from the former.

(b) *Socio-psychological Analysis*.—Satisfaction and value are not resolvable to certain simple or atomic instincts. They are compound psychoses in which are integrated and absorbed groups or sets of instincts and emotions. These are to be understood mainly as urges of economic behaviour. It is

¹ See Tugwell : “ Human Nature in Economics Theory,” *The Journal of Political Economy*, June, 1922.

because these psychoses cannot be reduced to simple abstract units of instincts and emotions, that they cannot be measured quantitatively. Herein modern psychology is far removed from the postulates of hedonism and marginism. But in order to raise economics into a science we have to find out an index of economic motives and valuations which will serve to measure utilities and market purchases. The units of our calculus will be the sets of instincts which, as we saw in Chapter III., are usually grouped together as urges and realize themselves in actual economic conduct. Judging from this calculus we find that absolutes, entities, totals, satisfactions are ratios, differentials, margins and fractions, in other words, wants are variables of groups of instincts. This standard will take into account the notable fact that qualitative differences in intensity or grade have no parallel in quantitative exactness.

The more elemental and primordial the sets of instincts are, the more fundamental for social evolution the satisfaction values which are compounded of the former. Applied economics will particularly take into consideration the socio-psychological phenomena arising out of the satisfaction or denial of these primary satisfaction values. In divorces, and stable and reproductive families, in industrial peace and unrest, in contented and land-loving peasant proprietorship and the shifting landless proletariat, we find lessons for a progressive economic policy based on inductive and statistical observation of complex economic or social phenomena which arise out of satisfied or unsatisfied desires. Thus will statistics be established on firmer and broader foundations of the new functional social psychology.

(c) *Laws of Stimulus and Reaction*.—The marginal school has never enlisted for support Herbartian psychology or the laws of stimulus and reaction which experimental psychology has given us and whose predominance was established by 1870. Wisser, for instance, confessed that marginism was an application of psychological tenets, but the precise nature of this application was dismissed with a bare mention of the Weber-Fechner experiments.

Titchener observes: "There is some little evidence that affection, on its intensive side, obeys Weber's law. While the lower degrees of insistence are pleasant, and the higher degrees unpleasant, a progressive increase of insistence within either region of the scale will give us, of course, an increasing pleasantness or an increasing unpleasantness. Now we have seen that intensity of stimulus is oftentimes the dominant factor in insistence. Where this is the case, it seems probable that, if the intensity of affection is to progress by equal steps or intervals, then the intensity of stimulus must increase by relatively equal amounts. At any rate, it is true as a general rule that what gives us pleasure or displeasure is roughly proportional to our income, our age and status, our ambition, our standard of comfort. If I am starting a library with a hundred volumes, and a single book is given me, I am as pleased—other things being equal—as I should be by the addition of ten volumes to a library of a thousand. The stamp which completes the set in a schoolboy's album gives him as much pleasure as the acquisition of the last farm which completes the ring-fence gives the wealthy landed-proprietor. All these things sadly need experimental confirmation; but there seems no reason why affective intensity should not, and there seems to be some evidence that in fact it does, follow the same law as the intensity of sensation."

It is true that the laws that govern the quantitative relations between stimuli and reactions deal with variations in the intensity of individual stimuli by continuous additions of units carried to fractional divisions, whereas in the economic field the analysis deals with units of goods that do not admit of such division but must be added or subtracted as wholes or multiples of wholes. But the principles of differential and terminal utility as well as of total utility in the consumption of economic goods are analogous in their character to the psychological laws of stimulation and reaction, whether sensory or affective. Such laws give us the threshold *limen*, the difference *limen* and the maximum or terminal *limen*. But Wundt holds that a corresponding law cannot be supposed for the affective tones, pleasurable or painful, accompanying

our sensory stimulations. He contends that affective reactions vary between maximal opposites and not between maximal differences. But, whatever may be the curve of elementary feeling tones or affective reactions, economic satisfactions, which are compound psychical affects or states, are not carried to the extreme zero point of pain, but, after exhibiting the phenomena of ascent, culmination and descent, tend to pass into their opposite (disgusts), at which point the demand ceases, and the downward curve comes to an end.

It is to be noted, however, that in the curve of feeling tones there is a certain portion just above the threshold which exhibits the phenomenon of ascent rather than descent, but it is only up to a certain point that this phenomenon of ascent holds good. Very soon a certain scale of consumption is reached when equal proportional doses of good are accompanied by equal and then diminishing proportional increments of satisfaction. This leads up to the maximum stimulus, after which there is no increase, and in fact at this point there is a change in the affective tone from pleasurable to painfulness, which may be followed ultimately by a cessation of consciousness.

Emotions, their Expression and Chemistry.

Psychologists have studied closely the body states which accompany emotions in order to gain knowledge of emotions themselves. The law of the relation of our emotions to bodily changes is thus phrased by Professor James: "Bodily changes follow directly the perception of the existing fact, and our feeling of the same changes as they occur in the emotion." Those bodily states which may most readily and advantageously be observed are the pulse, respiration, knee-jerk, secretion of the salivary glands, and muscle tension.

Physiologically, all emotions are expressed as neural outbursts from the central nervous system through efferent nerves to muscles and glands; emotion, in general, results in intensified physiological activity at the periphery of the body—muscles and glands, heart and blood-vessels, the face

and eyes and skin. A movement of surprise, a palpitation of the heart, a blush, a pallor, a shiver, a rush of tears, a dilated pupil—all these and other signs of emotion consist in sudden local intensifications of the chemical exchanges that are in constant operation between the living cells of the body and the fluid medium by which they are surrounded. We know, indeed, that all such chemical exchanges are controlled through efferent nerves, and we speak of this control as their trophic action, but we are scarcely prepared at the present day to recognize the close association between signs of emotion and the phenomena of nutrition ¹.

Professor Bianchi thus describes in detail the chemical modifications of the organism associated with the fundamental emotions and their expression. Hunger, thirst, the sexual need, the need of moving about, of sleeping, of avoiding high and low temperatures, are fundamental conditions. Hunger and thirst are intimately connected with material interchange and the chemical condition of the various cell groups of which the organism is composed. The sexual appetite has probably also a chemical origin, if the maturation of the ovule and the secretion of semen are to be considered chemical facts. Excessive heat and excessive cold are disintegrating, and so, in the course of various civilizations, a series of provisions for protection against these has arisen. Possibly some emigration in prehistoric times was determined by climatic conditions unsuitable for existence. All sensations with their respective appetites or repulsions and the determinism towards a series of actions calculated to satisfy them, may be included in what is termed by some the *instinct of self-preservation*, the *pleasure of living*, the *will to live*. When these attitudes of mind are analysed, we find in all of them the pleasure of satisfying the organic needs, more especially, if delay or insufficiency in satisfying them bring us to the threshold of pain, which is an expression of chemical changes taking place within the organism owing to insufficiency of nourishment, dehydration, etc.

¹ Waller: "The Galvanometric Measurement of Human Emotion," a discourse delivered at the Royal Institute on February 4, 1921.

We cannot claim to know what chemical modifications of the organism and more especially of the nerve cell, induced by prolonged rest, give rise to the impulse to move. There is little doubt, however, that this need with the corresponding pleasure of satisfying it, is also of chemical origin. The need for sleep, which is also of chemical origin, is to be included amongst the fundamental emotions, the chemical modifications here concerned being produced by the work of the senses and of the muscles, by suppression of light, etc. The satisfaction one experiences on awakening from a refreshing sleep is the conscious reflex of the restored chemical equilibrium throughout the body, especially in the nervous centres. The pain which follows nights of sleeplessness, taking, it may be, the form of an indefinite feeling of *malaise* and bad humour, and the despair that may go the length of suicidal emotions in individuals who suffer from agrypinia, are very significant proofs of the fact that the whole organism, but more especially the brain, takes part in sleep, which is a fact of organic integration.

Higher Emotions—Law of Pleasure and Pain.

After the fundamental group comes a second group of emotions of a higher order, such as fear, joy, anger, etc., which have a content of images that are to a much larger extent extra-organic. They are concerned with the *ego* in its relations with the outer world, and have a much richer content of image and a wider and a more mutable field of actions and reactions which are outside the domain of the fundamental organic needs and reflect rather the ego in its hedonistic attitudes and impulses, such as those concerned with the avoidance of pain.

Broadly speaking, pain may be interpreted as an interference with the process of nutrition in the organ, an interpretation which corresponds in general with the fact that harmony and good adaptation are on the line of pleasure, whilst discord and faulty adaptation are in the direction of pain. Adaptation is a form of penetration of the organism into its environment, and is consequently favourable to its development. The

fundamental law is that every stimulus which acts upon us modifies the ego in a pleasurable or disagreeable manner, according as it furnishes elements that are assimilable or favourable to existence or elements that are disintegrating or hurtful to the psycho-organic unity¹.

Emotional Life and the Blood Supply.

The reciprocal relations existing between the organs of internal secretion now are found to have an important influence upon the emotional life, but these relations are far more complicated than is generally supposed. In conditions of health a fairly stable equilibrium is established between the internal organs that are closely related to the machinery of emotional expressions. Some of these, like the thyroid, sex glands and chromaffin tissues, have an accelerating effect (katabolic dissimulators), while others, like the parathyroids, hypophysis, cortex of the adrenals, interstitial glands and thymus retard the reaction to stimuli (anabolic assimilators). Further investigation still remains to be carried on before the nature of the relations can be made clear. A knowledge of the apparatus governing the regulation of the blood supply is in reality of great importance for the understanding of the mechanism underlying the emotional life; thinking, feeling, doing are all maintained and controlled by the flow of the blood through the vessels of the brain. Some psychologists believe that the changes in the vascular system influence the strength rather than the quality of the affective states, so that we should expect a decided sensation of pleasure to be accompanied by a strong low pulse, which as a matter of fact, is generally the case. In the table on p. 152 an indication is given of the vascular changes with the associated mental processes.²

¹ Bianchi: *The Mechanism of the Brain*, chapter ix.

² Weber, F.: *Der Einfluss psychischer Vorgänge auf den Körper, insbesondere auf die Blutverteilung* (Springer, 1910), quoted in Paton's *Human Behaviour*, chapter viii.

	Brain.	Surface of Body.	Abdominal Organs.	Limbs and other External Parts of Trunk.
Incidence in consciousness of idea of movement with or without execution	+	+	—	+
Mental work	+	—	+	+
Fear	+	—	+	—
Pleasure	+	+	—	—
Pain	—	—	+	—
Sleep	+	+	—	+

+ Increase in blood supply. — Decrease in blood supply.

Feeling and Rationalizing Processes.

Recent observations and experiments seem to show that it is a mistake to attempt to resolve either the affective or rationalizing processes into separate and distinct elements. Adaptations either at the affective or intellectual level represent different aspects of the same stream of energy, which is flowing on continuously, never halting for a moment but continually seeking for some outlet of expression. In either pleasure or pain the feeling processes, as we prefer to call them and not feeling elements, are very closely connected with the higher conscious adaptations. Although they show a certain degree of apparent independence and detachment, they are inextricably connected with cognitive and conative processes. We do not at present know anything beyond more or less superficial causal relationships between the different links in the chain of these processes, but even our inadequate knowledge may give us important clues to the analysis of affective or satisfaction value. And though at present the chemical conditions of the affective consciousness have not yielded to experimental methods of analysis owing to the inadequacy of our knowledge of the central nervous system, we may hope that the advances in the direction of vitalistics and energetics and of psychological investigations based thereon ultimately may construct for us a calculus of utility on experimental methods.

Evolution of Sensation and Emotion.

The whole study of sensation and emotion intensities will be more productive for the social sciences in the experimental methods which it serves to cultivate than perhaps in the contribution which it now makes to the content of the sciences. Thus the cultivation of organismic psychology will for ever banish the old conceptualisms. Wants, utilities, purchase and value will be expressed in terms of the new psychology, such as act, attitude, wish, predisposition, etc., instead of pleasure and pain, which are not the source of our behaviour, but the conditions of its form. A predisposition or determining tendency has its origin in the depths of biological unconscious experience and this facilitates sensory and motor reactions behind a wish, satisfaction or valuation process, which is nothing more and nothing less than the physico-chemical reaction of the organism to the perennial stimuli¹. First in the series comes the fundamental sensation of pleasure or pain which simple stimuli produce when they come into contact with the body and penetrate the kinæsthetic sense. There is then continuous grafting of emotional and intellectual components. Thus the primitive satisfaction of hunger that formerly excited simple reflexes gradually becomes penetrated by the joy of labour which in its turn generates reflexes of extreme complication to secure greater comfort in life. Thus last in the series are the higher sentiments, those which, in the moral and intellectual field, accompany the hazards of life within the environment. This evolution takes place by the progressive addition and fusion of new components, these being furnished by the relations of each individual with society, and by the experience of these relations. The same evolutionary process is followed in the case of emotions and sentiments as in that of intelligence under the action of external agents and the relations that are ever being established with the consciousness of other beings with whom we live. Man's acquired sentiments, which are also the urges of his behaviour, have their roots in one or several of his original or innate

¹ Bianchi : *The Mechanism of the Brain*, p. 282.

instincts, and such acquired tendencies have been the outcome of man's organic heredity and social inheritance. There is always a super-imposition on this process of social suggestion, habit and herd standard, which secure an automatic adaptation of the individual's instincts and emotions to the environmental and genetic conditions.

Experiments in Associated Labour.

We may refer here to some of Walter Moede's experiments, which possess great significance in the domain of gregariousness. Indeed, the science of mass psychology has made a great stride forward through his experiments, which are of great import with regard to collective labour. In the united work of tested couples who had been paired with as close an approximation as possible with respect to their abilities, the capacity for work can never be found by mere addition of the individual capacities, as can be done in the case of a machine provided with two motors, and the same thing holds true of the work done by entire groups—*i.e.*, their total capacity for work cannot be found by reckoning the sum-total of their individual capacities. The consciousness of united action in a crowd, especially when groups are animated by rivalry with regard to each other, inspires each individual to stronger effort; self-confidence, self-reliance and self-consciousness all become more intense, and each individual feels more certain of himself when acting as a member of the group. On this account group rewards may be made effective in industry to inspire greater effort on the part of the labourers, provided, of course, the labourers do not purposely inhibit their efforts in order not to injure weaker groups. With the recognition of the modifications of intellect and emotion in a crowd, we obtain a new factor in the determination of efficiency, in the physiological and industrial sense, and of affective state and value in general in various fields of associated life.

Psychological Explorations.

So far, demand, utility and value are cloaks of the physical and the unconscious, whose specific contributions to the

formation of such compound psychoses are, however, both real and calculable. Introspection also appears on the scene and comes to play an increasingly important *rôle* in the valuation process. Here the law of conscious choice holds good, though comprehended within the law of progressive adaptation which governs value in its under-stages in the realm of the sub-conscious as well as in the introspectible plane. Thus the laws of utility and value have themselves an evolution in the individual and the social mind, rising layer upon layer on the bed-rock of the unconscious, and covering the whole history of man's mental and social evolution. The laws of apperception are easily applicable to normal consciousness and satisfaction. In the region of the unconscious their extension may supply us with the data for the laws of preliminary excitation or retardation which underlie the phenomena of fatigue and mental inertia. In the mental plane creation corresponds to the productive activity, as in the foreconsciousness which in economics had hitherto monopolized all consideration. Fatigue, fag or inertia represents a pathological condition which blunts the edge of the want and the acuity of demand. There are cycles of creation and inertia which embody the periodicity of productiveness and unproductiveness in diverse fields of economic activity in individual as well as in group life. Recent investigations into the region of the unconscious show that initial utility is not the beginning of a series of satisfactions, but is really the end or margin of another series which are embedded in the deeper unconscious strata.

Indeed, the so-called initial utility is really the final utility of the biological unconscious plane. The significance of this series is all-embracing as furnishing the bed-rock of all social or economic motivation and behaviour, especially in the sphere of unsatisfied repressed complexes which find their vent in the abnormal or sudden gusts of human conduct. The bitterness and irrationality of strikes and lock-outs, of sabotage and syndicalist outbreaks, have their real explanation in the incomplete satisfaction or inhibition of certain elemental instincts or felt needs. On the negative side such stagnation, stupor

or petrification associated with all decadant economic communities, groups, estates or classes represent psychological states of fatigue or torpor where instincts or conscious needs cease to intensify, multiply or realize themselves through economic activity. Abnormal psychology, indeed, has opened up a large field of investigation in the study of mental and nervous disorders in relation to industrial and occupational conditions. Such experimental investigations and developments are new, but the relation of functional nervous abnormalities and situation neuroses with loss of affect, interest, utility or efficiency will ere long be a new contribution of abnormal psychology to the study of economics. Such abnormal psychic states prevent an easy canalization or sublimation, which are the indispenable processes leading to a dynamic progression of wants through ever-ramifying neural connections along expanding regions of excitability and consciousness. Social psychology is bringing to light the addition to concrete individual satisfaction, which accrues over and above the natural reaction of the stimulus, from the multiplicative and intensifying effects of sympathy and imitation of suggestion and vibrancy in a social situation. This will throw a new light on producer's rent, consumer's surplus, social utility or co-operative satisfactions from a new direction. Educational psychology, as in the hands of Thorndike, also advocates means of increasing vigour or tendency to mental activity and those of preventing excitement and worry from overwork, while psycho-therapy suggests measures for the prevention and cure of specific mental and nervous disorders based on direct individual observation. Our treatment of vital processes, including emotional and mental reactions as representing forms of adaptations by which the individual responds more or less perfectly in health and imperfectly in disease to environment, is proving to be of great significance to the psychologist and the sociologist. It is thus that where experimental methods are not applicable observation comes in aid of analysis and formulation of laws of individual and social adjustment and welfare. In economics, in education, in criminology and penology, in medicine and in every other

CAMPBELL'S CHART.

LEVELS AT WHICH MENTAL DISEASES (DISORDERS OF ADJUSTMENT) MAY ARISE.

Schema of the Levels of Human Activity.		Types of Mental Disorders.	Important Causal Factors.	Methods of Prevention.	Applied Sociology.
MENTAL AND INSTINCTIVE		Functional Psychoses and Psycho-neuroses, <i>e.g.</i> : Manic-depressive disorders. Various forms of depression. Paranoic conditions. Hysteria. Phobias, obsessions, etc. Dementia præcox.	Causation always complex, not well understood : the following are important causes : Heredity. Certain Traits of Character. Faulty Training. Poor assimilation of instinctive life.	Extension of education (school and university) to the important problems of the individual life. Co-operation of physicians, psychologists and teachers necessary for this extension. Clinics, dispensaries or bureaux of advice to afford early assistance. Cultivation of a frank emotional attitude in general and of a healthy and open attitude toward sexual matters in particular. (A wide social and educational problem.)	Social Psychology and Psycho-therapy. Economic Pathology. Scientific Management. Employment Psychology. Measurement of Intelligence. Vocational selection and training. Psychological treatment of the emotional defective.
	PHYSIOLOGICAL ..	Exhaustion psychoses. Senile psychoses. Arterio-sclerotic psychoses	Malnutrition. Overwork. Unhygienic conditions of home or workshop. Constitutional lack of vitality. Stress and strain of life.	Essentially, general hygiene. Hygiene of home and workshop.	Social and Industrial Hygiene. Dietetics. Fatigue study and determination of rest periods. Science of Industrial Administration.
	BIO-CHEMICAL ..	Delirium due to fever. Thyroidogenous disorders. Syphilitic brain disease. General paralysis. Tubercular brain disease.	Fever. Disorders of thyroid gland. Syphilis. Tubercle (Pellagra).	General preventive medicine. Crusade against syphilis. Crusade against tuberculosis.	Medical examination of employed and education in the avoidance of occupational diseases and injuries.
	CHEMICAL ..	Alcoholic psychoses. Drug psychoses. Lead and bisulphate psychoses.	Alcoholism. Drug addiction. Faulty manufacturing.	Crusade against alcoholism and drug addiction. Industrial hygiene.	
	PHYSICAL ..	Traumatic disorders.	Injuries.	Safeguarding workmen, traffic regulation, etc.	Industrial Engineering. Attention to ventilation, heating and lighting of workshops.

This chart, originally prepared by Dr. C. Macfie Campbell, of Harvard, for the National Committee for Mental Hygiene, is reproduced here from Paton's *Human Behaviour* with the addition of the right-hand column by the present writer.

work of human amelioration, the influence of descriptive and experimental psychology is increasingly felt in the use and moulding of human nature. The fields that are opened out by a fuller understanding and better control of the processes of human and institutional adaptation may be well realized from the accompanying chart.

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CHAPTER XI

ANTI-INTELLECTUALISM IN ECONOMICS

Psychology of the Mass Mind.

The fundamental characteristic of the present economic transition is the self-consciousness of the group of workers which now dominates economic thinking. According to the Marxist analysis, the changes in the material methods of production react upon the mass psychology of society, generating new impulses and ideals and inevitably leading towards the great consummation. An awareness on the part of the class-conscious proletariat of the ends and means becomes a factor of equal dynamic capacity to the blind economic forces and, indeed, these will be controlled and directed as a revolutionary mass-psychology permeates society. This is far different from the current idea about the economic determinism of Karl Marx; in Marxism, it is man's impulses and desires provoked by the changes in economic arrangement which spur yet further advances and fashion the new economic order. The essence of the Marxist theory of reconstruction is the strength of mass impulse and desire. It is this anti-intellectualism which is at once the explanation and justification of the tactics of class struggle. But contemporary psychology, while it recognizes, in the words of Bertrand Russell, that "impulse has more effect than conscious purpose in moulding men's lives", shows also the process of integration of the mental life of the individual by the group or institutional selves. Not by absorption or reconciliation but by interlocking and inter-penetration of group impulses and wills can personality be evolved. By what kind of industrial groups, local or non-local, this end can be achieved, is indeed the great

problem of liberal reformers. On the other hand the Marxists do their utmost to promote awareness of group struggle, "which the glib exponents of a fictitious social solidarity would fain conceal from the eye of the workers". For them the mysticism, the idea of human impulse and desire, acting and reacting on the material conditions of production, operating throughout history as the instrument of creative evolution, and manifesting itself in times of crisis as the quasi-omnipotent force of creative revolution, is the supplement and logical development of Marxism¹. Thus anti-intellectualists who are overthrowing the superstition that man is a rational animal have served the cause both of economic reform and revolutionary communism. It is noteworthy that the influence of Bergson's realistic non-rational philosophy has been sought to explain the theory of revolution of Sorel and French syndicalists while Bertrand Russell's thought is closely connected with the movement towards the new group federation of economic life in England, in fact with all movements towards self-government in industry. Scott has pointed out that Sorel's gospel of social war and his ideal of the national strike as "myth" to estimate which the current methods of discussion must be abandoned, are connected with Bergson's integral intuitive vision of ideal life which he has set above thought. It is this realism whereby recent philosophy is inwardly and genuinely related to syndicalism, socialism and other disintegrating influences to which it has as a matter of fact become externally linked. Of course Bergson assigns no useless or merely hampering rôle to the intellect. But, as Ramsay MacDonald observes², Sorel picks and chooses from the philosophy of his countryman, falling into errors against which Bergson himself warns his readers; and for the task of the reconstruction of external social relationships, when Bergson would assign an important part to the critical intellect, Sorel throws it over altogether! Similarly Russell's devotion to the kind of knowledge typified in the immediate apprehension of an externally given concept, has favoured the present

¹ See Eden and Cedar Paul : *Creative Revolution*.

² J. Ramsay MacDonald : *Syndicalism*, p. 19.

tendency in advanced social movements to accept, and so implicitly to justify, not merely incalculableness but also a certain narrowness in labour policy. The realistic temper is manifest in Russell since his earliest *début*, and has taken the English organized unionism in its mid-flight and helped it on its way.¹

Gregariousness or Herd Instinct.

We must also refer in particular to the recent treatment of gregariousness from the psychological standpoint. Trotter, for instance, has shown that gregariousness is a phenomenon of profound biological and sociological significance. It easily combines with other instincts, socializing them and at the same time often greatly intensifying them. "Influences derived from herd feeling will enter the mind with the value of instincts. Acts which it would be absurd to look upon as the results of specific instincts are carried out with all the enthusiasm of instinctive behaviour. Hence the herd instinct can confer instinctive sanction on any part of the field of belief or action." He further says: "When, therefore, we find ourselves entertaining an opinion about the bases of which there is a quality of feeling which tells us that to enquire into it would be absurd, obviously unnecessary, unprofitable, undesirable, bad form or wicked, we may know that the opinion is a non-rational one, and probably therefore founded upon inadequate evidence." The herd instinct in man seems to have arisen as a result of abandonment of forest life by his immediate ancestors and their taking to the life of the plains, which necessitated the association in herds (or more properly packs) for the purposes of both defence and offence. Carveth Read has suggested that many of the fiercer qualities of gregarious man, his delight in hunting and killing for its own sake are the outcome of this transformation of habits². Durkheim and his school think that the great step upward in the early history of man was taken in the fervour of collective feeling, thinking and acting, as in the savage corroboree; and mild

¹ Scott: *Syndicalism and Philosophical Realism*.

² Tansley: *The New Psychology and its Relation to Life*.

inebriation, whether by drink, ideas or common sentiments, not only fuses individual souls into a larger whole but also and by many other means loosens higher super-individual, racial energies and inspires each with the instinct of the herd.¹ The herd instinct combined with the food-getting impulse, for instance, has destroyed the horde as the earliest social-economic unit in primitive life. Groups based on ties of kinship such as hordes, families, tribes as well as groups based on likeness of purpose such as neighbourhoods, hamlets, village communities, cities, are all more or less an expression of man's gregariousness or what Giddings has called "the consciousness of kind" combined with other impulses. The herd-mind is, indeed, the basis of effective division of labour in economic development and specialization of the arts and professions based on the recognition of the value of expert knowledge in social life. Modern civilization feeds that easy sociability which has developed out of the primordial herd feeling. McDougall traces the congestion of population in urban centres to this elemental tendency: "It is the crowd in the towns, the vast human herd, that exerts a baneful attraction on those outside it. As in the case of the animals, the larger the aggregation the greater is its power of attraction; hence, in spite of high rents, high rates, dirt, disease, congestion of traffic, ugliness, squalor and sooty air, the large towns continue to grow at an increasing rate, while the small towns diminish, and the country villages are threatened with extinction."

Thus arise the problems of housing and urban monopolies, transportation and industrial distribution, emigration and rural reconstruction, immigrant labour colonies and garden villages, all of which seek to correct the maladjustment arising out of the unusual amount of unliberated herd impulse in a mechanical and depersonalized economic system.

Current Phenomena of Herd Instinct.

Sociologists sometimes point to America as the supreme achievement of the herd mind. The sense of close, multitudinous personal contacts; the swarming in hotels; conventions, and

¹ Hall: *Morale*, p. 227.

all forms of "get together"; the organized processions, clubs and societies, church socials, parades; the ritual of badges, college yells, and other emblems of solidarity, are its genuine fruits. Perhaps the currency of standardization is actually served by canalizing individual freedom and craving for personal distinction into non-essentials. But its cost is intolerance, rejection of the eccentric, low valuation of personal superiority, and action along the lines called the "fatalism of the multitude". It is the endeavour of the herd mind to reach its highest and most elaborate development in a human society which shall work almost as instinctively as does a bee-hive, and almost as destructively for individual freedom¹. The perversion of the herd spirit is nowhere more manifest than in the repression of opinions, political, economic, or moral, that are liable to cause dangerous discontent with the economic rule of possessing majority. There are also manifest the corresponding boldness of a recalcitrant minority, emotionalism and impulsive action, and this too often in modern economic disputes. The partial "herd spirit" has become very intense to-day. Employers and employees have become definitely solidified into separate groups, each imbued with what has been termed its own herd spirit, each developing purposely or instinctively its own defences, each resolved to defend its own position and to demolish that of the other "herd". The closed union and the closed shop are well-known instances of the further disintegration of the herd. Another familiar example is the exclusive policy pursued by modern trusts and *kartels* as against producers in the same field. As organized into the economic policies of rival nations, the perversions of the herd spirit are manifest in tariff wars and commercial offensives, policies of retaliation and reciprocity, boycotts and reprisals. On the other hand, an ever-broadening consciousness of kind as well as an ever-active purposeful co-operation point to the soundness and efficiency of social organization. Socialism evokes such feeling because behind the theory of the existing class struggle lies the conception of a classless, harmonious brotherhood; behind the conception of the

¹ *The Nation and the Athenæum*, April 29, 1922, p. 151.

international solidarity of the working class lies the ideal of the world-wide solidarity of the human race. And, indeed, the ethics of socialism is inspired by the feeling of the herd and the ideal of social solidarity. Bax observes: "It seeks not the ideal society through the ideal man, but conversely the ideal individual through the ideal society. It finds in an adequate, a free and harmonious social life, at once the primary condition, and the end and completion of individuality." This is true not merely of socialism but of all social programmes and ameliorative measures of this age.

Imitation, a Phenomenon of Inequality.

Trotter's herd instinct is included in Giddings's principle of the consciousness of kind, while Tarde's law of imitation, which may furnish the basis of several economic phenomena and concepts, is also accepted by Giddings with slight modification. It is now common knowledge in sociological theory that Tarde's broad use of the term imitation was unjustified, in that he made the mistake of trying to interpret social progress by a single principle. As Cooley says: "There are other aspects of society besides imitation which may be viewed as social processes, competition, communication, differentiation, and others, each worthy of a volume like Tarde's *Laws of Imitation*. . . . The real process is a multiform thing, of which these are but glimpses." The economic process cannot be explained by one all-comprehensive principle, though imitation serves as the basis of the adoption of new ideas (inventions), fashions, conventional necessities, amusements and values, as well as readjustments of demand and market price which accompany economic change. It is noteworthy that the movement of economic equality bases itself on the experience of the meaningless repetition of life, work and pleasure. The inferior classes try to imitate the superior classes in order to avoid social inferiority. The result is, society continually runs in the same groove. On the other hand, any system which would tend to decrease economic inequality would tend to kill imitation. Just in proportion as men become equal,

they cease to gain by imitation of each other. It is always among equals that we find true independence ¹.

Division of Labour and Solidarity.

In the same way, Durkheim's elaboration of the concept of organic solidarity based on division of labour and consciousness of supplementary difference will be most useful in economic interpretation, supplementing the concept of consciousness of kind. The function of the division of labour is not to produce civilization, Durkheim holds, but to give birth to groups which, without it, would not exist. It is possible that the economic utility of division of labour counts for something in this result, but in any case its social value far exceeds the sphere of economic interests, for it results in the establishment of a social and moral order *sui generis*. Individuals are bound together who without it would be independent. In place of developing separately they unite in their efforts. They are *solidare* and with a solidarity which does not reveal itself merely in the brief moments of exchange of services but extends much further, as for example in conjugal solidarity among modern nations. In modern experiments in group organization of economic life throughout the world, the value of this much-needed concept as a principle of economic psychology can hardly be over-estimated.

Contributions of Psychology and Social Philosophy to Economics.

An attempt to select the important contributions of psychology and social philosophy to economic interpretation is very difficult, but may be risked here. It is obvious that economics must be shorn of all metaphysical elements and become realistic and objective. The old faculty categories and pleasure-and-pain calculus have become obsolete and can serve no longer as bases of economic analysis. Economic behaviour must be inferred not from limited personal observation and a species of introspection but from the postulates of mechanistic and behaviouristic psychology. The instinct

¹ Vail : *Principles of Scientific Socialism*, p. 227.

psychology as developed by McDougall, Thorndike or Veblen will not only supply economics with a concrete and real economic man, whose complex and irrational features are to-day bodied forth in the laboratories, but also it will help materially in the solution of many of the practical problems of employment, scientific management and labour efficiency and welfare. Economic psychology will be regarded as a branch of social behaviourism, even as economics will form one department of the larger science of sociology. Economic psychology, forming a branch of the study of cultural ideals and of the factors of race psychology and development, will also furnish an analysis of the social bases of economic life which would be a guide in the enquiry and an aid in the interpretation of economic phenomena of different races and regions. More and more will the social and institutional point of view be emphasized and economics will become regional and comparative in its outlook, basing itself on the psychology of race and people, which, by determining its institutional or cultural standardization, determines the nature as well as the sphere of economic relationships and sets a limit to economic values. Along with the facts of human geography, social history and psychology of ideals, which govern economic life under different environmental and institutional conditions in different cultures, the broad trend of the larger society of the race will be studied through observation and history ; and the high cultural and moral issues to which the economic movement is subservient will be present constantly before the economist. The organic theory of society will have new significance, and the study of interests will yield its place to the study of functions, the study of division and differentiation to that of integration and solidarity. With Comte, the economist will accept a positivistic and organic view of society ; with Spencer he will make use of the biological laws of structural growth and differentiation to explain economic progress, and, with Schaffle, of the analysis of function. With Giddings he will analyse social consciousness and the psychological basis of economic group association, co-operation and conflict. With Durkheim, he will interpret

the ever-increasing division of labour and interdependence in economic life as both the cause and result of the ever-increasing organic solidarity in societies. He will accept Tarde's law of imitation for explaining economic changes, movements in tastes, or invention in the arts of production through the suggestion-imitation process as well as the formation of economic habits and institutions. Rejecting the old hedonism and Patten's distinction between pleasure-economy and pain-economy as the criterion of organic progress, he will take his stand on the functional psychology which shows longing, striving, aspiration, as the deep significant things in human nature. With Ward, he will emphasize individual and social telesis, and measure economic progress in objective terms of population, wealth, vitality and achievement, leaving these to be tested where possible by statistics and biometrics, and the experimental investigations of physiological psychology. But the means and ends of social control will have to be reconsidered in the light of the new psychology. While Ward thought that "man is not naturally a social being", and assumed that "his inclination to form social communities was an outcome of the reasoned calculation of pleasures and pains", economics would start on the hypothesis of the herd instinct. Man's freedom and progress, the new psychology teaches the economist, must be secured within the herd, whose standards and judgments defy any rational calculus of individual pleasure-pain. This is far different from the anarchist notion of liberty on the one hand, and the communistic dictatorship on the other. Freedom is attained neither by undisciplined, crude individuals nor by exploiting and exploited groups, but by a balance of expression and suppression of natural inclinations¹.

Psychology of the Unconscious as Basis of the New Economics.

Thus the economist must interpret human inclinations and expressions in the light of the psychology of the unconscious developed out of the impulse given by Freud, Jung

¹ Cf. Eden and Cedar Paul : *Creative Revolution*.

and Adler, for in no part of social life are the non-rational unconscious drivings more manifest than in the economic field. The human mind must be regarded no longer as a static unity but as a highly evolved organism imperfectly adapted during a long course of evolution to the needs of man. Jones observes: "The unconscious is the part of the mind that stands nearest to the crude instincts as they are inborn in us, and before they have been subjected to the refining influences of education. It is not commonly realized how extensive is the work performed by these influences and how violent is the internal conflict they provoke before they achieve this aim." Modern economic life is replete with phenomena showing how the refining process of education and institutional morality is far from being perfect and that in consequence the return of the civilized man to the crude and illogical mentality of the primitive man is more common than is generally supposed. Accepting from the new psychology the well-considered opinion that the most fundamental activities are largely non-rational activities, economics will base itself on the illuminative analysis of the unconscious aspect of human nature which lies at the bottom of all social behaviour and will diagnose and remedy the states of psychic conflict and strain that inspire the theory of revolutionary socialism. For obviously there is to-day the most striking want of adaptation of human nature to the rapidly developed and rapidly changing demands of modern economic life. Indeed, the repressions of modern economic environment with its taboos and standards which the herd instincts accept and enforce, and the consequent conflict of great human impulses, both conscious and unconscious in their workings, and the final neuroses, are to-day forming a more important part of economic thinking than the analysis of conscious desires and the limitations of the institutional environment which are the conditions of economic life. Nor is the outlook gloomy, for economics finds its hope and promise in the definite line of action pursued by the new psychology which seeks to utilize the unlimited power of the unconscious impulses on the side of modern progressive social action.

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CHAPTER XII

THE PSYCHO-ANALYTIC VIEW OF ECONOMICS

Provisional Classification of Instincts or Urges.

We have seen that an instinct is seldom found isolated in action and that this is especially the case with derivative interests and satisfactions such as economic values, which are usually compounded of a number of instincts. As against the long catalogues of instincts postulated or inferred by McDougall and others we have to-day attempts to group instinctive reactions. It is the balance of the system of instinct groups which achieves and maintains normality in psychic life, and their distintegration is accompanied by their breaking forth in some morbid or barbaric form.

Such classifications of instincts are as yet but provisional and can hardly serve as basis for economic analysis. This, however, does not mean that such efforts are futile. We fully believe that there will evolve a successful classification in the future, which will give the sanction of science to all analysis of human behaviour. To-day, however, we have to be empirical in our enquiry and we shall look for concrete urges, which may or may not be the elementary instincts of the psychologist. The assumption of these urges must obviously be provisional, for the classification of instincts or instinct groups has been as yet tentative.

The following urges appear to be determining factors of economic phenomenon :

Economic urge	{	Food and acquisition
		Sex
		Herd
		Æsthetic impulse
		Self-assertion
		Construction

We have already described the operations of these urges. Among them, food, sex and herd urges are well recognized in all circles. We have seen also that the instincts of self-assertion and construction are the dominant motives behind the organization of capitalistic industry by the bourgeois class, while their denial has been the mainspring of modern economic unrest. The æsthetic impulse also is a primary instinct or instinctive derivative which comes into operation in connection with almost every form of human activity. In the elaboration of food, in the choice of clothing, in sexual selection, even in the production of machine-made goods, the artistic impulse becomes manifest. The instinct of acquisition has furnished, as we have seen, the motive behind the institution of private property and is now found in fusion with every other instinct.

Economic Reactions.

We may arrive at the same springs of action from a study of the abnormal or pathological economic reactions brought about in the industrial life. The urges that we have listed do not operate singly but they are fused with one another in their functioning. Some of them appear in the conscious plane, while others remain latent, and seek their fulfilment through those appearing in consciousness, thus lending a complex colouring to the total urge, and sometimes giving it its peculiar direction. Undue repression and consequent dissociation of one or more of these motives give rise to inco-ordination, accentuation and inhibition of certain other vital urges and functions. By means of a study of such abnormal cases, we may thus arrive at the urges that are potent in economic life, and it will be our purpose to see if the functions arrived at from an analysis of normal economic institutions correspond to those discovered from an analysis of economic pathology. Thus nomadism and piracy stand as the archetypes of revolt against the denial of food, whether by nature or by society. Vagrancy or tramp life are their modern survivals. Similarly, crime against property in all its guises, or the inexplicable interest taken in the collection of obsolete

or rare stamps, coins, etc., kleptomania among the rich or as manifested in the appropriation of unnecessary articles even among the poor, are instances of dissociation and accentuation of the acquisitive urge. The inexorable demands of the economic system, on account of which normal sexual life is denied to the vast majority up to a late period in life, and sexes are separated in industrial cities, have their Nemesis in the hideous maze of the white slave traffic. Aggressive labour combination in many of its forms is a natural and inevitable protest against the superimposition of individual bargaining by the employer on unorganized or disorganized labour. This in its turn is met by lock-outs or by opposed capitalistic combinations, such as gigantic trusts and *kartels*. The divorce of art from industry has given rise to the craze for the cinema, the saloon, the furnished flat, the cheap music and pleasure resort, etc., through which the attenuated æsthetic impulses seek satisfaction. Cut-throat competition in wages and prices, underselling, dumping, etc., are intensified forms of the instinct of self-assertion which is not nourished in normal economic life. Still more to the point are the instances of gold-seekers, prospectors, gamblers and speculators. The excitement and willingness to spend extravagant sums in contested games, pugilistic displays, etc., testify to the unconscious working of the motive of self-assertion. Indeed, it is this primal impulse which the conditions of modern civilization and the accompanying denseness of population and expenditure of limited resources of nature are constantly blocking. The impulse to construction in its repressed form has intensified in the social consciousness a preference for hand-made goods, and has given rise to many anti-industrialist movements such as "back to the land", guild socialism, the arts and crafts movement and the like.

Conflict of Urges and its Results.

The conflict between the urges is also important as a factor in bringing out pathological reactions in the economic field. The incompatibility of satisfaction of two such vital urges as food and sex has given rise, for instance, to belated marriage

or celibacy, to artificial birth-control, disruption of family ties and irregular sex relations. Similarly, the conflict between food and herd instincts often results in the severance of long and established family and neighbourhood relations in the phenomenon of emigration. Blacklegs come into being in the same conflict while family desertions and anti-social and even cannibalistic tendencies common during famines are its extreme forms. The complete denial of the æsthetic impulse testifies to the imperative food urge in mining labour in dark and repulsive surroundings, in unwholesome and unpleasant work, in the wholesale emigration of families from villages to city slums, etc. Similarly, the servility of industrial labour testifies to the defeat of the instinct of self-assertion by the food-seeking urge. We need not suppose that the food-seeking impulse is always victorious. We have mentioned the philatelists or coin collectors who may forego a dinner for a rare stamp or coin. The spendthrifts as a class spend far more to satisfy their hobbies or fancies in the face of urgent organic needs.

The instinct of acquisition is the primary force leading directly to the extension of the self. Its first form as we have seen is the acquisition of food while its excesses hamper the growth of the herd. Unless it is duly regulated by the herd, the conflict between the haves and the have-nots forebodes to-day irreparable disaster. Sharply differing from the instincts of acquisition in its effect on the well-being of the herd, the instinct of construction is a similar means of extending the limits of the self. The ego-complex is to-day hampered in its due development, impoverished, disintegrated or partly repressed by the industrial system, and both education and economic organization must aim to remedy the evils of the consequent confusion of mind and consciousness of conflict by availing themselves of the new interpretation of the human mind and the new psycho-therapy. The partial instinct or the particularism of class and the instinct of self-assertion which have wrought so much harm, have also to be combated and made to work along proper channels, while acquisitiveness as well as the constructive instincts must be set to work

for and not against the highest ideals. To work thus towards the expansion and uplift of the self is the supreme task of the economic science. Modern psycho-analysis will show us the way: how balance can be maintained and healthy mental life guaranteed by the moulding effect of the conflict between the purely egoistic impulse and the herd instinct without decisive victory on one side or the other. The conflict between elementary impulses has assumed different phases among different peoples, for the psychology of peoples is different. Thus in the East the communal instinct being very strong, the instability that modern industrialism has introduced and the hostility and psychical segregation between acquisitive instinct and the herd instinct have been more acute. Apart from this the demands of modern standardized production have been exorbitant everywhere.

The accentuation of one of the impulses more than of others thus leads to repression, and consequent pathological conditions both of the individual and of the group. Thus the normal balance of life is disturbed, which spreads beyond the economic sphere into the very core of social life. This, again, brings about a new orientation of values which has as often as not a disruptive influence.

Modern Industry and Repression of Instinct.

Man under present economic conditions has little psychic energy available beyond what is required to meet the economic needs and to fulfil the reproductive functions. In the process of his mental evolution, as man gains more control over the environment, the development of every variety of handicraft and art, as well as systematic play and abstract thought, divert psychic energy to channels other than the biologically necessary ones. This is the criterion of progress both in individual and in social life. The ego-complex at first expressed in the nutrition *libido* continually develops and differentiates, employing more and more of the available energy. Energy, however, cannot be diverted wholly from the instincts of acquisition and, indeed, its repression in certain schemes of economic reform betrays itself in revolutionary outbursts,

disastrous to the mental health of the body politic. The repression of the constructive instincts, self-assertion, etc., has led similarly to mental depression and loss of self-respect in the case of the wage-earner. Modern industry, in spite of the increasing security of daily life and existence and the increased aggregate wealth of the human communities it affords, is based on the fixed principles of the mechanical sciences. For its own completion it necessarily must be elaborate and over-complex in its structure and machinery. And it must be rigid and unyielding for the very perfection of its functioning. Consequently, it thwarts the living impulses of human life, and insists on the subservience of the latter to the industrial system. Thus it has led to a one-sided development of mind and character and often to individual revolt and social unrest. "In every scheme of a pathological kind," says Rivers, "we can distinguish between the conditions or causes of the morbid process and the mechanisms by which these conditions produce the manifestations or symptoms of disease."

Mechanisms of Pathological Expression in Economic Life.

So far we have been concerned principally with the conditions of economic pathology. We must turn now to the mechanisms through which the symptoms find expression. The principal mechanisms through which the repressed impulses seek fulfilment are, according to the psycho-analysts, sublimation, projection, defence reaction, symbolization, compromise, dramatization, rationalization, secondary elaboration and transference of affect. Many of them are found operative in the group life as in the individual neuroses. We should consequently expect that these would function in the economic sphere, giving rise to well marked socio-economic phenomena. One of the most interesting features of the recent labour movement is the ideal of the working-man's brotherhood, which has received a large amount of support even from the pulpit through its apparent kinship with the Christian idea of brotherhood of man. The tie

of common hostility to the capitalistic classes and of the common sordid interests of labour of different countries is idealized into the ethico-religious conception of socialistic fraternity. This illustrates the process of sublimation. The ascription of the motive of tyranny and dictatorship to the labour organization so often vociferated by the capitalist represents nothing but the process of projection of Freudian psychology, just as the faithless husband always complains of his wife's inattention. Similarly, the perpetual cry for social justice or justice in distribution is meant like charity to cover a huge amount of industrial inequity. This perhaps represents the mechanism of defence reaction. In socialistic circles the idea of the State as the symbol of economic exploitation and the intense and bitter feeling against the State represent a transference of feeling from the bourgeois and capitalist to the ruling authority. These illustrate the processes of symbolization and of transference of affect. The common phenomena of artificial restriction and lowering of quality of the output illustrate the mechanism of compromise—a compromise between co-operation and non-co-operation. We all know of the intensely dramatic picture of the coming social revolution drawn by Sorel and his disciples. The universal strike ensues, food and water supplies are cut off, transport is stopped, the city is steeped in darkness, the bourgeois crouch into their lightless chambers or seek refuge in flight, a new hope and enthusiasm enkindle the proletariat soul,—it is a drama of proletariat wish-fulfilment, a drama that has kept alive the spirit and organization of syndicalism. Obviously it shows the mechanism of Freudian dramatization. The flamboyant antimony between private morality and business morality is but an instance of rationalization of the inherent moral weakness in the whole scheme of industrial life in which the ordinary standards of right and wrong are ruled out of court.

Lowered Vitality in Industry—Fatigue Phenomena.

It is not always true that the presence of pathogenic factors are sufficient to bring about a pathological breakdown.

Certain pre-disposing conditions are necessary for this purpose, just as the very presence of bacilli of a particular disease can bring about the disease only when certain other conditions are fulfilled. These have been subsumed by the physician under the rather indefinite term of lowered vitality or absence of immunity. In the industrial life, too, such factors must be postulated. The elements of conflict between the basic human urges may be supposed to have existed through all human history. Yet the situation in days gone by was far less acute than it is to-day. The pathological condition, then, has been brought about by a certain lowering of industrial vitality. This is due principally to the widespread destitution, and to the intricacy and complexity of an over-elaborate industrial machinery. This demands a far more strenuous effort on the part of the group for successful adaptation. As a consequence a state of social fatigue and an economic *fin de siècle* attitude are engendered. This general atmosphere is perhaps due largely to the actual physical and mental fatigue brought about under the exigencies of long hours of unrelieved routine work in the factory. The condition of fatigue, however, involves a psycho-physical effect, as Féré says, similar to that of hysteria and neurosis. Fatigue has brought about a loss of control while repressed unsatisfied instincts are now freer to surge forth from the unconscious to which previously they had been banished. Fatigue, similarly to disease, lowers the energy-supply; hence all defence mechanisms are weakened and the repressed instincts break through all the institutions, whether social, industrial or ethical. Thus the psychological situation in the unconscious plane and the physiological disturbance accompanying it make up a vicious circle. Dr. Myers observes: "The emotional experiences thus engendered are accompanied by over-stimulation of certain organs of internal secretion, exhaustion of which reacts in turn harmfully on the organism. A shortage in psychical as well as physical reserve force arises. In all branches of industry and commerce, both on the side of management and labour, uncertainty and distrust, irritability and defiance prevail. Output becomes restricted, and a vicious circle

is completed by the atmosphere of unrest in turn produced by conscious restriction or output." Both psychical segregation and repression, which is a more drastic method of dealing with conflict than that offered by the pseudo-logical prop, as well as over-emphasis of certain instincts, to-day have militated against the herd and brought about reprisals, with widespread want of balance. There also has been failure in the adjustment of wider national and international issues with the aspirations of the modern social community. When conscious social and political activities fail to give satisfaction, the process of regression leads to an unconscious satisfaction through strikes, retaliation, reprisals, sabotage, direct action, etc., though their origin may not have been due directly to economic discontent. Here, again, is an instance in which the suppressed energy seeks expression through direct and sometimes destructive outlets when the indirect outlets can no longer be maintained either through the environmental stress or the shortage of energy available. The general effect of all these has been a lowering of vitality and consequently of the power of inhibition, which has given free passport for the emergence of the unfulfilled urges of group life in a more or less unorganized and ill-balanced form. Economics must ally itself with the new psychology to restore the balance and secure a fairly-balanced allocation of the psychical energy available under modern industrial conditions.

Psycho-analysis in Economic Studies.

Modern schemes of economic reform or revolution are to-day analysed and interpreted according to psycho-analytical methods by Ferenzì, Lorenz, Paul Federn and others. Psycho-analysis can, indeed, do more to explain mass impulses than to explain the phases of individual development. It is especially at home in the domain of regressions. It analyses the elements which conflict with the reality principle, and re-discovers in the social reconstructions the unconscious tendencies and their modes of expression that have been made manifest in the individual psyche. It thus throws light upon the individual psyche, it may be in relation to the reciprocal

influences between the elements conflicting with the reality principle and reality itself. There is undoubtedly an analogy between individual psychoses and social psychoses. But social projection in the case of the community corresponds to the ego projection of the individual; moreover, in society there are more extensive opportunities for contact with reality, but, on the other hand, there are wider possibilities for regression. So far as social therapy is concerned, the canalization of the *libido* towards useful ends is a valuable principle, which may be applied usefully in practice. Indeed it must be recognized that both the stability and the instability of the present social order are dependent in no small measure upon neurotic transferences. "If there is any reliability to be placed upon the findings of psycho-analysis, then both the docility and the intractability of the employee are 'transferences' of the different father attitudes to the employer or capitalist. In the same way the benevolent paternalism or stern despotism of the employer is explained as an identification with similar father images. In a study of social unrest we shall find that the conduct of the labouring classes possesses in periods of unrest all the characteristics of that of an individual revolting under the influence of the repressed complex, all the quality of the behaviour of the neurotic son of a stern, unbending father. The attitude of the employer towards labour is also frequently the result of a pathological reaction due to sub-conscious fear. From the standpoint of living the full life of a man, the labourer is just as right in his objection to well-meant paternalism as to overbearing despotism!"¹ Psycho-analysis emphasizes the fundamental right of a man to be treated as a man, and not as a slave, a cog in a wheel or a machine-tender, not merely his right to work, but also his right to be a man.

Class-consciousness and Economic Domination.

Class-consciousness is a denial of the fundamental principle that a man shall be treated as a man. It is the product of

¹ Hingley: *Psycho-analysis*; and Watts: *Psychological Problems of Industry*.

repression, of an inferiority complex, and yet this social neurosis is at the bottom of economic thinking. It must be recognized that this can never furnish the basis of a stable social order. Again we must remember that class-consciousness now pervades every stratum of society; there is not one class but many classes, and it is the repressions in each class, the rich and the poor, which lie at the root of discontent. Such repressions can be counteracted only by a process of sublimation, a socialization and spiritual enrichment of life, and a widening of the scope of creative activity in every class. This will strengthen the tendency towards a juster distribution of wealth and opportunities. The question of industrial adaptation also appears in a new light. The rigidity of economic interest groups such as the trade unions complicates the problem of individual lack of adaptability, which is encouraged by the trend of modern industry towards ever-increasing division of labour. Economism now dominates life and thus the individual is denied scope and inspiration in daily work. Mere mechanical drudgery cannot provide channels for sublimation. There must be scope for the creative impulses, for individual self-expression. Thus the land problem and the arts and crafts question become more than economic questions, and the demands of art and religion come to be as imperative as those of hunger in their satisfactions of the deeper, unconscious impulses of men. Indeed, the denial of the opportunities of sublimation by the stereotyping of human activity in modern economic life has been more responsible than anything else for the present deep-seated discontent.

Psycho-analysis and Economic Unrest.

A few instances of the application of psycho-analysis to the solution of modern economic unrest have been given by Aurel Kolnai. The proletarians of the modern industrial world have lost all contact with the soil. Being unable to introduce new or more refined sublimations, their theories bring danger in their train by engendering a tendency towards regression to older and coarser traditions. They are cut

loose from all affective traditions, not excepting undogmatic traditions. They thus yearn for a return to earth as an end in itself. Without traditions they nevertheless cling tenaciously to their Marxist dogmas. Since they can think of mankind only as a homogeneous landless mass like themselves they depict the return to the land as mass movement which is not backed by any social integration for further evolution. They apply to agriculture superficial analogies borrowed from industrial life and they lack both knowledge of and feeling for the real nature of the agricultural problem. Thus the substratum of communist Russia is constituted, on the one hand, by a still extant primeval agrarian communism, and on the other hand by the "class-conscious" proletariat of an extensively small but intensively developed industry—a proletariat which has forced its narrow creed on the rest of the community. Much of the proletarian ideology is in fact not a critical project for reform but an impulsive reaction against capitalist oppression. The proletarian endorses class-egoism and acquiesces in the plutonic cult in the form of historical materialism and of indifference to agriculture. The mystical materialism of Karl Marx discerns in everything the ego impulse alone, the impulse to self-preservation, and, dependent thereon, the impulse to establish and maintain the power of class. It acquires in Marxism a complexion which is completely anti-rationalistic and regressive in its trend, though justice, rationality and analogous developmental values have been turned into account in a reversionary canalization of regression. In organized unionism the titanic energy idealized by Marxism is damped down and dispersed rather than sublimated. Paul Federn, in his *Psychology of Revolution*, discerns in the development of the soviet system the birth of the fatherless society of the brethren, and perceives therein the evolutionary potentialities of society. But Kolnai endeavours to prove that these potentialities would not be realized through the victory of the brethren, but through the renewed sublimation of the father principle and a general remove from the condition of the primitive horde. The soviet system can only mark an advance as the co-operative democracy of free human

beings, individual fathers as it were. But at present it is an unmitigated reversion, in its substitution of the earlier despotic father-principle for its comparatively progressive and organizational form. It is possible that the extant occupational councils and *mirs*, if the situation improves, may become the germs of a progressive evolution. This, however, would contrast not only with bolshevism, but also with the peaceful communism which secures Federn's approval. As contrasted with all these, that trend of liberal socialism which favours a mechanical break-up of landed property into small areas, and the establishment of a system of petty proprietorship, wrests from an ideal economic theory a temporary concession in favour of transient expediency, effecting so to speak a canalization of *libido*. Just as the lower stage of repression avails itself of idealization, so, too, in social life does the negative principle of the critical condemnation of anti-social wishes require to be supplemented by the positive principle of sublimation. This, indeed, forms the chief feature of the ideology of modern liberalism.

Psycho-analysis and Land-hunger.

Psycho-analytical methods also throw light on an outstanding feature of international economic life of to-day. The era of capitalism with its predominant rôle of machinery has divorced man from the earth and the living environment. Ferenzi considers that whereas these latter can become the objects of a general psychical community (earth-hedonism, the feeling for nature) machines are introjective transferences, and at a higher stage they are projective transferences of the bodily (working) organs. They arouse a technico-rationalistic spirit. In virtue of their symbolism it seems probable that they can act also as psychical derivatives, but there are several obstacles to this: K. Bucher maintains that the machine gradually loses the old rhythm; new rhythms doubtless arise but are not apperceived on account of specialization of the workers in a system where they have become means to an end¹. While the machine is associated with a metaphysical rationalism, the land basis of economic organization provides

¹ Quoted by Kolnai, p. 156.

the nucleus for the expansion of the affective life. Thus the baffled impulses of a landless proletariat seek a canalization of the land-*libido* in the dangerous form of imperial or international land-hunger or the mirage of a "place in the sun"; while the extreme forms of socialism in their protest against manufacture tenaciously cling to agrarian communism, a regression to an earlier principle of land settlement which society has long outgrown. Meanwhile this policy of exploitation and conquest serves as diversion for the outflow of physical and psychical reserve of the nation along channels which will be less dangerous for the established authority. Thus the problem of African and Asiatic exploitation by the European powers is a phase in the stage of their manufacturing development and cannot be set at rest till the land and social problems at home are settled. All this represents a very bare and bald sketch of psycho-analytical economics and only illustrates the need of a more adequate analysis of economic psychology than we meet with in the present treatment of the subject.

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CHAPTER XIII

HUMAN GEOGRAPHY AND ECONOMICS

Welfare the Object of Economics.

We have shown the significance of the new economic psychology which is superseding the psychology of the price system associated with the classical and neo-classical motivation. The new psychology demands that the consideration of welfare cannot be subordinated to the consideration of wealth, the satisfaction of the elemental instincts must no longer attend upon the behests of efficiency. The instincts of workmanship and creative construction, the desire for order, the satisfaction of services rendered and uses created, the humanizing and socializing passions will now be given a chance to temper the primal impulses to have and to hold and to exploit. Welfare implies expression and satisfaction of all the demands of human nature and these demands must form the main criteria for the judging of economic systems and theories. Thus welfare is not always associated with income or leisure which income brings. The idea of welfare also includes conscious direction. The new economic psychology thus demands a consciously formulated theory of social development. Indeed, the current social and industrial doctrines alike agree in emphasizing the possibilities of economic science for ushering in the new economic order by methods of experimentation. A new economics should test and perfect ideas and institutions instead of expounding in a rational way the so-called natural laws which underlie the existing social or economic order. No longer could economic science rest upon the assumptions of certain general fixed categories which the present static order implies. The tyranny of immediate

pecuniary values, peculiar to the industrial system with its capricious demands for goods and the corporate nature of business organization, the prestige of wealth, the distinction between private morality and commercial morality, or between enforced idleness and conspicuous waste as well as the economic hierarchy which has sought as its first object the maintenance of the immediate and mutual pecuniary interests of the several groups which make up industrial society—these should no longer blind economics alike to the future and to larger strivings and expressions. Our conviction about economic fundamentals, as a recent writer puts it, is that they ought no longer to be treated as if they were uniformly the outcome of uninfluenced rationalism, but should be recognized for the instinctive products which in so large a degree they really are. The play of economic forces makes for a constant flux and evolution in the economic organization, all of which creates in many and diverse ways a new status for property, a new status for labour and a new status for consumers generally. Each alteration of status requires changed opinions and new forms of thought. Because so many of the old convictions are primarily instinctive, it is extremely difficult for men deliberately and rationally to adapt their minds swiftly enough to the new facts of the economic environment. Instinctive opinion, engendered as it is in large degree by suggestibility of the herd and fixed as it is by mental habit, finds great difficulty in making adjustments to new inventions, new industrial relations, new economic facts. It is true that economic experimentation is circumscribed to some extent not merely by the conditions of economic life but also by the exigencies of modern production. But property and competition may and will be largely modified and regulated if intelligence brought to bear on economic reconstruction be not confused by chaos or vested interests. There is also a certain degree of machine monotony which is inevitable in modern civilization. But the growth of variety and individuality in consumption and education, not in one small portion of a trade but in several trades as well as the arts and crafts system, will prevent the dreariest extremes of specialization, while the larger

initiative in self-governed workshops will also be life-maintaining. In an economic atmosphere free of cruelty and envy, repression, psychical segregation and conflict, the most rigid of hard labour and the most flagrant of human inequality will be set in a new environment. The economist is justified by the experimentalists in industrial physiology and psychology; the genius of the experimentalist is made more fertile by the wider theories of economic reform. Both will work together to erect a new stage-setting and fill it with scenes of mental delight and actions of spiritual striving for the eternal drama of labour¹.

Climate as Affecting Social Life.

If economics is to be judged by its capacity for serving life by methods of experimentation it necessarily must be regional and inductive in its outlook, because adaptation is the very essence of experimentation. This brings us to one aspect of psychology which has not as yet drawn sufficient attention, especially in explaining social life and evolution. Indeed, in the psychological interpretation of social life and institutions, the importance of this aspect can hardly be overestimated. The psychical factors, such as instincts and impulses, of which the importance in human association has been so much elaborated, work themselves in the environment which, indeed, serves as their basis, continually conditioning and modifying them. The external conditions of regional geography and physiography are the significant factors of social evolution over long stretches of time. It is these which lead to adaptive physiological modifications and differentiation of peoples and races in point of temperament and psychical endowment. The influence of climate on racial traits has been shown by many writers since Buckle. McDougall, who has most recently dwelt upon collective psychology, observes: "High temperature combined with moisture certainly tends to depress the vital activity of Europeans and to render them indolent, indisposed to exertion of any kind. On the other

¹ Dewey: *A New Social Science*, quoted in Eddie's *Current Social and Industrial Forces*.

hand, high temperature combined with dryness of the atmosphere seems to have the effect of rendering men but little disposed to continuous activity, and yet capable of great efforts; it tends to produce a violent spasmodic activity and, when combined with much moisture, to a certain slowness." It is interesting to note that in North America a race characterized by a new specific combination of mental and physical qualities is rapidly being formed. Boutmy has emphasized how the dull northern climes of Europe and the sunny lands of Southern Europe modify racial mental qualities by direct action through the eye; hence arise differences between conservatism and radicalism, doggedness and instability, individualism and social affection which have been made so much of by many writers. The direct action of the sun on the temperature of the body, the effects of the ultra-violet rays on the nervous system, the distribution of body heat during evaporation of sweat in dry or moist heat—and the consequent modification of circulation, the nature and kind of food supply—all these, acting directly and indirectly, especially on the internal secretions which affect the functions of the emotions, are known to affect the organic processes and psychic life. That physical agents exert a remarkable influence on the process of nutrition, and these again upon the psychic functions, are facts that have been known from antiquity.

Season and Climate.

The influence of climate and the seasons upon the organic and psychic functions has been demonstrated by statistics relating to suicide which is more frequent in certain seasons (Montesquieu, Berboussou, Delaroche, Morselli, Massarolli). There are both old and recent observations connected with this subject, and amongst the latter may be mentioned the researches of Lombroso Ferri and Penta in Italy dealing with the influence of the seasons upon sanity and upon the frequency of crime. Climate is the synthesis of a number of physical conditions—light, temperature, atmospheric electricity, direction and prevalence of certain winds, vicinity to the sea (independently of the atmospheric pressure) and the

chemico-physical constitution of the earth. Bianchi observes that in the human subject metabolism undergoes notable alterations in different climates, and with these we get certain changes in the humour and activity of the mind in individuals not adapted to the particular climate.

Darkness and Light.

The silence which night time imposes upon many animals, the slowing of conversation, the difficulty or inhibition which we experience, as though taken by a vague fear or pre-occupation, if the light goes out as we are talking ; and the gaiety which bright sunshine infuses into us after days of wet and wintry weather, are psychic equivalents, in the domain of the emotions, intimately connected with all the vital functions, and hence with the organic processes.

Physiological Variation and Environment.

The modifications undergone by the circulation under the influence of various external stimuli acting upon the different senses, modifications that have been clearly demonstrated since the introduction of Mosso's plethysmograph as an aid to physiological investigations, are now assured facts of physiology and psychology¹.

Sir Arthur Keith has suggested recently that variations in the development of the ductless glands may account for some of the changes that are rung on human characters and that differentiate the different racial types. The application of the knowledge of the internal secretions and the hormones to the explanation of the formation and differentiation of racial types is incontestably a remarkable progress, but this explanation would remain incomplete, as Mendes-Correa observes, if one does not invoke the influences of the geographic environment to explain the difference of lines of racial evolution. Nobody would think of proclaiming the spontaneity of the hormones which give birth to anthropological differences.

¹ Bianchi: *The Mechanism of the Brain*, which gives an excellent summary of the relations between climate and emotions.

As a matter of fact the pituitary gland, the surrenal capsules, the pineal gland, the thyroid gland, etc., have a relation with the physical development, and with certain somatic traits of which some have a great influence from the point of view of the race and are not at all independent of the environment. In ascertaining, for instance, the relation between the Mongolian traits of certain diseased persons and their thyroidial functionings one can presume the rôle of the gland in the normal Mongoloid characterization.

Linking of Mental and Physical Characters.

A very important question for investigation arises in this connection, *viz.*, whether physical and mental characters are linked together. In the solution of this problem it is essential that anthropology, geography and psychology should work together, and, indeed, it is only such co-operation which can lead to better analysis and determination of fundamental factors¹. It appears that the mental qualities are inherited like physical qualities and characters. It may be assumed that they stand in some direct relation to some element in the nervous system. Further, some mental qualities seem to be associated with physical qualities. Professor H. J. Fleure enumerates them thus: “(1) The skin is one organ of contact with the outer world and its character, colour and development of its pores and hair in different groups is linked up with circumstances of regions which those groups of peoples occupy. The dark brown pigment and turgid skin of the African exuding invisible sweat, the dry, tough skin of the Eastern Asiatic, the sensitive skin of the men of North-West Europe, the red-brown skin of the wanderers on Arctic ice-fields, are all related to physical conditions—to glare and heat of the equatorial regions, the long duration of bitter and dry cold in the interior of East Asia, and so on. But they also imply differences of sense perception, of irritability and so suggest possibilities of temperamental differences which,

¹ A discussion on Mental Character and Race was held in a joint session of the Anthropological and Psychological Sections at the Meeting of the British Association at Hull in September, 1922.

especially as between Orientals and Europeans, are very well known. (2) Again climate, and especially temperature, has a strong influence on sex-aspects of our organization. In warm regions sex-maturity is hastened, save among nomads, some of whose males undergo long fasts and other strenuous forms of training. Growth takes on a spurt at the advent of sex maturity and then ceases. It thus happens that the cessation of growth, at least of mental growth, comes at an early age, before experience has had time to accumulate very much, among the natives of West Africa and the equatorial forests. And, obviously related to this, is the marked contrast in mental adaptability and power between those natives on the one hand and Western Europeans on the other. (3) A third point concerning the association of mental and bodily characteristics is brought out when we reflect that most human races are most active mentally when the temperature varies about 60° to 64° Fahrenheit, with occasional short intervals of bracing cold. In those regions in which temperature is for long periods far above or especially far below the level, it is difficult to keep up intellectual initiative unless men are living very protected lives. They tend to rely upon routine even more than we do—the effect of thought is often beyond their physical powers. So the people of certain regions with certain physical characters may tend more towards initiative or more towards ingrained habit according to external circumstances. Enough has now been observed to show that there is a *prima facie* case for the distribution of mental characteristics in particular regions, were we but better able to diagnose them, as well as for regional distributions of physical characteristics and for a connection to some extent between one set and the other.”¹

Regional Modifications of Human Constitution and Behaviour.

Every region presents to man a distinctive physical environment which furnishes the occasion for man's most elaborate

¹ “Mental Characters and Physical Characters in Race Study,” *Discovery*, February, 1923.

behaviour with reference to food and wages, standard of living, economic activity, the technology of civilization, etc. All these establish a similarity of habits in all members of the region. In the second place, habitual group action also is evoked by the similarity of responses with fellow-men. The responses of individuals of the same ethnic stock are in general more nearly alike than are the responses of individuals of different ethnic stocks. Man shows hereditary and acquired differences in instincts and impulses, and these, along with distinctive environmental reactions in a common situation, give rise to characteristic forms of social behaviour of different peoples. The possession of similar response tendencies towards the individual and social environment defines and unifies a group which is the subject-matter of a psychology of society. It is true that man starts everywhere from practically the same capital stock of native instincts, but the instincts are tentacles sent out to gather nutrition from similar response tendencies or habits and customs which in different environments have modified a stock, giving rise to striking disparity and difference in custom and culture. Indeed, it is through social dependencies and companionships that the impulses are co-ordinated into serviceable powers. It is these which give rise to ways of belief, of expectation, of judgment and attendant emotional disposition of like or dislike that are not easily modified when once they have taken shape. Thus, native human nature supplies the raw materials but custom and habit furnish the machinery and the designs. Man's original nature as well as a commonly experienced situation furnishes the basis of a similarity of tendencies and habits in all members of society, though the latter are means of reconstructive growth. Of these the emotional expressions, which depend only in part upon training for the order and the composition of their elements, are the most elaborate of our instinctive behaviour patterns. But these cannot be interpreted adequately in terms of one category like Tarde's imitation, Giddings's social consciousness, Le Bon's suggestion, Trotter's herd instinct, Veblen's instinct of construction or Freud's *libido*¹. Such

¹ See Smith and Guthrie : *General Psychology*, chapter vii,

behaviour is of diverse and complex origin. Each of these categories is often fused with others in the acts of every-day life. On the other hand there is no such thing as a social impulse separated from other instinctive behaviour patterns. Each impulse may be reinforced by a commonly experienced world and a common social situation into a social habit. Such social habits, of course, are different in different times and places. They simplify the world and make life in communities easier and more successful. They give birth to tradition and morality, superstition and myth, which are all relative to time and place and become the common heritage of society, strengthened not merely by similarity of response among the members of a society but also by complementary or reciprocal conduct, and this is strengthened by use and sanctioned even by force. Social institutions similarly are habits established not only in custom but also in legislation, when man's ratiocination and criticism of means and ends raise a universally shared habit pattern into an ethical value consciously sought to be realized. Such institutions may show the predominance of one set of instinct groups, but they generally represent the fusion of many tendencies and emotional expressions and involve the whole of man's urges and capacities. As social life progresses, instinct, feeling and habit more and more recede and the *rôle* of knowledge, ideals or values becomes more and more important; in fact the latter are themselves propelled by and derived from the former, though modified by experience and tradition. Social arrangements, economic institutions, customs and ideals accordingly come to have a survival value of their own over and above a people's original equipment in instincts and impulses. This is the reason why social and economic types are more or less permanent and tenacious, though there is no such thing as absolute stability, for biological variation, social change or adaptation would prevent this.

Analysis of Race and its Economic Types.

Through heredity, variation, selection, etc., and with continued isolation and segregation in a particular *milieu*

there thus arise different physical and psychical races¹. It is the complex of conditions of physical and psychical race arising out of the mutual adaptation of stock and clime which must be considered as original and active factors in human associations and as formative agencies in the differentiation of social types, though there is the psychical unity of man as embracing different racial temperaments and ethnic values as there is the physical and biological unity of the earth as embracing different geological, botanical and zoological regions and zones. We must therefore analyse more specifically the different elements that go to constitute a distinctive economic type :

(1) *The Physical Factors*.—Influences of the geographic environment, including climate, food, soil, natural resources, topography, etc. This is the subject of Economic Geography.

(2) *The Psychical Factors*.—Influences of the psychical and psycho-sociological factors, original instincts, acquired habits arising through experiences and influence of the environment, feeling, beliefs, standards. This is the subject of investigation of Social Psychology.

The same geographic environment, by its selective influence, fixes in a stock certain inherent favourable traits and impresses upon society a certain stamp. Heredity, organic and social, which leads to the similarity or organic make-up of instincts, habit and usage, makes historic social continuity possible. Thus, through the abiding and cumulative influence in a given environment and through their mutual correlation and adaptation, we have distinctive economic types. Such types show correlated differences in the following :

(1) *Physical*.—Differences in national food, diet and standard of living, the nature of the struggle for food and wages, economic organization, the technology of civilization, etc., which preserve the continuity of habit and so of social life. All these represent a new artificial environment for man,

¹ The foundations of ethnical experimental psychology have been laid by Rivers, McDougall and Myers. Professor Woodworth has made interesting experiments with people in low stages of culture, and sums up the conclusions arrived at from his observations and those of others in *Science*, xxxi., 1910. Compare also Thorndike : *Educational Psychology*.

even more important for his social life than the geographic environment.

(2) *Psychical*.—Differences in impulses both hereditary and acquired, in beliefs, interests and schemes of social and ethnic values and in types of economic relationships, the inherent powers and capacities furnished by heredity. These supply normally the motives for the activities of man.

The social psychologists of to-day have rightly emphasized the psychical factors ; but have ignored not only the psychology of peoples, but also the physical factors such as climate and race, which are important formative agencies in human association.

Racial temperaments are an interesting study to social psychologists, though no doubt they are modifiable by climate and social changes. The influences of the nature environment and social environment, which give purpose to race activities and determine social forms and institutions, ought not to be kept in the background. Indeed, the complex of conditions constituted by human geography and race and folk psychology, as well as the derived complex factors compounded out of the simple physical and psychical factors referred to above, furnish us with distinctive elements of particular economic types and regions and their permanence and strength. The study of civilization records the historical tradition which is built up layer upon layer by the interaction of the physical and the psychical factors in the life of a people. Such factors must be conceived not only statically but also dynamically with reference to the given environment.

Psycho-analysis of Nations.

A psycho-analytical investigation of the mental characteristics of the various nationalities, races and culture groups may facilitate an understanding of Comparative Economics and furnish hints as to how *libido*-masses which are working along dangerous paths can be rendered harmless or can be diverted into useful routes. Maeder makes an attempt at the systematic study of the English national character—not directly analytical but guided by psycho-analytical ideas.

The author describes the repressive capacity in the English temperament, which throws a flood of light upon the course of British policy. The partial intensification of repression, and on the other hand the almost complete disappearance of the subjection of women, are doubtless connected with the peculiar cleavage between English traditionalism and English rationalism. There may be also some connection between the successful repression and the continued success of Britain in its relation with the foreign world. Aurel Kolnai observes : " The expansion of psycho-analytical study would help us to learn in what nations particular impulsive trends are dominant, which symbols are most widely diffused, which constructions and which manifestations are proper to the individual nations. We are practically justified in assuming that such characteristics exist. It seems most improbable that the groups of qualities which indubitably stamp particular nations which produce a national aroma—so to speak—are mere mixtures of general traits as civilization or barbarism, tenacity and fickleness, trustworthiness and untrustworthiness. These cannot suffice for the account of the matter. The problem of the origin of the national qualities belongs chiefly to the spheres of geography, history and sociology, but the inner mechanism of these qualities cannot be fully elucidated without analytical research."

Further Work for Social Psychology.

Comparative economics would base itself on a more systematic study of national traits, which, however, will not become possible until psycho-analysis has secured wider recognition and has been more generally practised. Thus the new psychology labours under the following limitations. It has investigated into naked instincts and impulses and has made little of the intellectual or rational elements out of which are compounded the scheme of social ideals, standards and values, social complexes of particular activities or institutions in every human group. Modern social psychology is right in so far as it has emphasized instincts, which have to do, however, with the beginnings of practically all social activities

and relationships. In social origins, it has neglected the rôle of habits, which are due to the modifying influence of the environment, while in social development it has practically ignored the importance of intellect, which enters into social life chiefly in social change or adaptation, and increasingly as humanity has outgrown or found insufficient the "trial and error" method of adaptation¹. Social psychology thus has not analysed much the motives for the reflective activities of civilized man. From the evolutionary point of view it does not take into account the biological factors of social heredity, variation and selection. It cannot be denied, however, that social standards and values often themselves emphasize social neuroses, which may be revealed by psycho-analysis, and that much of recent economic and social thinking is the precipitation of morbid psychological conditions and maladaptive economic structures which give rise to conflicts of motives. But while psycho-analysis determines for us the causes and conditions of economic disorders, the rôle of social inheritance in achieving normality by a balance of the intricate system of instincts must no longer be kept in the background. The mental therapy of the future will also doubtless find it necessary to give greater attention to the social inheritance of the individual. A just criticism of the narrower Freudian psychology of the past has been that the treatment has dealt mainly with the individual regardless of his social habits and environment, and that the whole social situation, including the factors of race and culture experience, has not been sufficiently taken into account in the analysis of neuroses.² It is probable that we will wish in the future to place greater emphasis upon what has been recently termed "the situation types" of neuroses and psycho-neuroses. In such types the part played by herd instinct in the conflict is very evident and we should supplement our study of the individual in such cases by a more thorough study of environmental influences.

Social psychology, unfortunately, has almost ignored the

¹ Ellwood : *An Introduction to Social Psychology*, p. 69.

² *The Journal of Abnormal Psychology and Social Psychology*, vol. xvi., p. 237.

environmental forces which serve as the basis upon which the psychic processes take place. Human geography and social anthropology to-day map human history into institutions and habitat into diverse regions and zones ; the recent developments of folk-psychology, race-psychology and the psychology of values also reiterate the importance of a comparative investigation. A regional and ethnic approach to social psychology which will utilize the inductive studies of social anthropology that are neither new nor unimportant is the method of the future, and unless this is established we cannot reach a psychological classification of social types and evolution, and economics cannot rest on sure and scientific foundations.

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CHAPTER XIV

PHYSICS AND ECONOMICS

Energy, the True Measure of Economic Values.

We have seen that labour and its cost cannot be interpreted in terms of derivative experiences such as pain and pleasure, because human activity is urged by the primary springs of action ; and that utility, therefore, is truly measurable not by means of hedonistic calculus but in terms of energy. Production is energy-transformation, and, applying the universal principle of equivalence and mutual convertibility of energies, we may reduce a material good to a common demoninator in an all-embracing science of energies. Further, with the increasing application of chemical and physical laws to biological reactions, labour, reward, utility may all be measured ultimately in terms of energy, thus offering us a more stable and scientific foundation for the calculation of utility and costs than the casual equations of demand and supply or the uncertain calculus of marginal utilities conceived in terms of pleasure and pain. The law of the conservation of energy and the law of the degradation of energy, otherwise known as the first and second laws of thermo-dynamics, clearly indicate that the manifestations of energy are neither accidental nor independent of one another, but are orderly and obey laws. The apparently irrefragable conclusions of the brief half-century of creative development, from the time when Young first used the word " energy " and Bolton and Watt first employed the idea of measuring energy in horse-power, through the period of Carnot's brilliant intuition regarding the relation between heat and work to the epoch of the foundation of thermo-dynamics, is that energy is one and indestructible. To-day we know that just

so much heat, neither more nor less, may be obtained by the complete transformation of so much fuel, as coal, or from a unit of electrical energy, or from a given chemical process.

Natural Credit System.

Clerk Maxwell observes : " The transactions of the material universe appear to be conducted, as it were, on a system of credit. Each transaction consists of the transfer of so much credit or energy from one body to another. This act of transfer or payment is called work." The living organism in its natural environment is a source of available energy. Though not in equilibrium with its surroundings, the living body is in an approximately steady state ; furthermore, it is one of the essential conditions for the continuance of life that this approximately steady state be maintained. Extreme departures therefrom result in permanent displacement from the steady state, and ultimately in the dissipation of the available energy presented in the substance of the organism.

Mechanism of Energy-Capture.

In the course of events a certain amount of available energy, varying according to the nature of the organism, is unavoidably dissipated, per unit of time. It follows that every organism, in order to maintain the steady state necessary for its survival, must be provided with devices for capturing available energy. Furthermore, in the competition which takes place among organisms, the advantage must go to those whose energy-capturing devices are most effective in directing available energy into such channels as are favourable to the preservation of the species. A. J. Lotka points out that in man, as an organism of the animal type, the mechanism for capturing available energy comprises three elements :—(1) Sense organs, or Recaptors, whose function is to establish a certain rather close correlation between the state of the environment and that of the individual. Their function, in fact, is to *depict* the external world in the organism, to apprise him of the state of his environment. (2) Organs of operation, or Effectors, such as hands, feet, etc., by means of which the individual reacts

physically upon his environment so as to modify it or to modify his relations to it, as, for instance, by locomotion. (3) Organs and faculties of adjustment, or Adjustors, whereby the action of the effectors is adjusted in accordance with the indications furnished by the sense organs (receptors), and with the needs of the organism.

Sense of Values.

Among the adjustor faculties one which figures prominently and plays an important rôle is what we may call the *sense of values*, that faculty which we exercise when we are confronted with two or more alternative courses of action, from which one must be selected. In such a situation we choose the course which appears to us, subjectively, the more *desirable*, and we do not ordinarily give any thought to the question as to what may be, objectively, the significance of "desirability", any more than we do ordinarily concern ourselves, in viewing a landscape, as to the particular wave-length, the objective characteristic, of the light which to our subjective judgment appears "green."

And yet, for the interest of the species, it is evidently far from indifferent what may be the objective characteristics of those things which to us appear, subjectively, desirable. Upon the proper adjustment of the sense of values, of the "tastes" to certain objective realities, depends the welfare of the species.

Value in Terms of Energy.

This concept, indeed, forms the basis of the physical analysis of bio-economic values. Value is energy available for man as an organism from his environment. Every case of production in economics involving the transformation of potential into kinetic energy and *vice versa* may be represented as an equation in mechanics. Thus, the law of the conservation and the law of the degradation of energy in physics express themselves in economics as the law of the equivalence and the law of the substitution of energies respectively underlying in part the phenomena of the equivalence and substitution of values. Other things being equal, commodities under the operation of

the principle of substitution tend to have the same value when the equivalent of their cost of production and their quantum of energy are equal. Thus the basal subsistence-level of the worker and the actual physiological cost of a work, and the organic demand for the energy available from the finished product, may all be expressed ultimately by one universal standard of measurement. On such a basis the ethics of consumption and distribution, as well as the conservation and development of resources, both material and human, appear in a different light, for they are grounded on the economy of nature. Here it is of interest that one of the most striking things about the physico-chemical nature of protoplasm, the basis of life, seems to be its uniformity throughout nature. The underlying physico-chemical processes in living organisms seem to have remained about the same throughout the whole process of evolution¹. With very trivial exceptions, the economy of life on the earth is now and probably always has been founded upon the synthesis of carbo-hydrates from water and carbon dioxide with an accompanying fixation of energy, followed by the conversion of carbo-hydrates into fats and a great variety of other related substances. These latter are reconverted by animal oxidation back to water and carbon dioxide, the energy set free by such oxidation being utilized by the organism in part at least to produce the various forms of organic activity. Numerous experiments have shown also that the living organism obeys the laws of conservation of mass and energy, so that any surplus of energy output over intake is derived from a loss in body substance and the converse.

Energy-value Illustrated.

Let us examine in detail the energy transformation in nutrition. Now, the complete oxidation of such substances as fats and carbo-hydrates sets free a large amount of available energy. Assuming this energy to be all converted into heat, for the purpose of measurement, it is possible to obtain a

¹ L. J. Henderson : "Orthogenesis," *The American Naturalist*, March-April, 1922.

number expressing the total energy content of any oxidisable substance. Numbers obtained in this manner are known as " heats of combustion ". They play a useful part in comparing the energy changes in various reactions. Heats of combustion, however, do not necessarily give the actual available energy values of foodstuffs, in the organism. If converted into heat at once, only a comparatively small part can be utilized, even if the rise of temperature be large. Rather, we require to transform the chemical energy of food in the manner giving most free energy. Furthermore, if it were shown that carbohydrate has, calorie for calorie of total energy, a higher proportion of free energy than has fat, this would have an enormous influence on theories of nutrition, as indeed A. V. Hill suggests. Boltzmann points out also that the " struggle for existence " of living beings is not for the fundamental constituents of food, which are everywhere present in earth, air and water, nor even for energy, as such, which is contained, in the form of heat, in abundance in all bodies, but for the possession of the free energy obtained, chiefly by means of the green plant, from the transfer of radiant energy from the hot sun to the cold earth.

Conservation of Energy in the Living Organism.

The principle of conservation of energy, indeed, applies also to biological processes. This has been proved through an instrument called the respiration calorimeter. The quantity of the total food consumed by the person or persons under observation is first carefully weighed and records made. Then samples of the various constituents of this diet are analysed, with a view to determine the quantity of protein, carbo-hydrate and fat contained therein.

Atwater by this method constructs balance-sheets of metabolism. For the one side the amounts of the foodstuffs, protein, carbo-hydrate and fat, oxidized or used in the body, are calculated from the excretion of nitrogen and carbon dioxide the intake of oxygen and the respiratory quotient. These amounts expressed in terms of their heats of combustion, which are the quantities of heat they give off when burnt outside the

body, give us the energy supply, plus certain minor factors which are subsequently deducted for correction.

For the other side, we have the heat given out by the subject, plus the heat equivalent of the work he does. These two sides of the balance-sheet are found to correspond. Thus, the animal organism obeys the law of conservation of energy, which states that energy can neither be created nor destroyed. Living organisms can transform energy, but cannot create it. As a result of his experiments on animals, Rubner found that the amounts of heat produced in the body were fixed and definite for given weights of each kind of foodstuff: 1 grain of protein or carbo-hydrate producing 4.1 calories of heat, where 1 grain of fat produced 9.3. Once certain minimal requirements of the body for nitrogen are satisfied, any kind of foodstuff may be used as a heat-producer, so that in this capacity the different foodstuffs are isodynamic when taken in the proportions indicated by the figures above. Thus, equal weights of protein and carbo-hydrate give practically equal amounts of heat. But the same weight of fat gives rather more than twice as much heat as the other two.

In 1911 the French physiologist, Lefevre, gathered together all the known data upon the subject in a notable treatise. It has been found that with a normal diet, suitably rationed, 90 per cent. of the food taken is utilized in the organism. An interesting point is that a vegetarian diet produced results as good in this respect, at least, as one containing meat. From the practical point of view, the science of human calorimetry furnishes precise data concerning the laws which control the physiology of the digestion and assimilation of food and of the elimination of waste matter, and thus furnishes a basis for the application of these laws to diet in particular and to general hygiene. From the theoretical point of view it has shown that the process of metabolism is regulated by thermo-chemical laws, and it thus verifies the well-known principles of the conservation of matter and energy ¹.

¹ See *The American Scientific Monthly*, vol. iv., No. 1, p. 32: "The Human Body as a Heat Machine: Studying the vital processes by determining the amount of heat they evolve."

Vital Phenomena as Energy Transformation.

The vital phenomena consist of transformation of energy, and the quantity of energy brought into action is always equivalent to the quantity eliminated. In both the animal and the vegetable kingdoms we are familiar with the initial and the final forms of energy. In the vegetable kingdom the energy penetrates in the form of light and heat, and we find it fixed in great part in the form of chemical energy. In the animal kingdom the initial form is chemical energy, and the essential final forms are heat and mechanical labour.

In order to attain the final form the energy introduced is first transformed into other forms, concerning which we have no precise data, just as we have no precise knowledge of the intermediate terms of the metabolism of metal. It is quite possible that these intermediate forms of energy are among those with which we are familiar in the physical world ; but it is not impossible, on the other hand, that they may be different. These forms, from the moment they are derived from known forms until they are transformed into known forms, could not possibly occasion us more surprise than did the discovery of electric energy. It is in this light that we should regard the physiological labour introduced into the science of bio-energetics by Chauveau, and the intellectual energy which is considered by Ostwald as being derived from chemical energy during the transformation of the latter into heat. Chauveau assumes that chemical energy, liberated by the combustion of glucose, creates and maintains in the muscles an elastic force which may be expressed by the formula

$$F = \left(p + \frac{mv}{o} \right) \left(1 + \frac{1}{2k} \right)$$

and that this elastic force is totally transformed into heat in the case of static work and into mechanical energy in the case of dynamic work. According to the results obtained by studying muscular elasticity, this hypothesis would seem to be fully confirmed.

Nature of Organic Heat.

Experiments demonstrate that, whenever there is an increase in the amount of work done, the temperature also increases. Apparently the heat produced in the organism can be considered no longer a mere excretion which was later adapted to the purpose which it now fulfils. On the contrary, it must have been designed from the very beginning to perform a definite function quite as important as the muscular function.

The term *excretum* as applied to heat would be justified solely in the case of the heat which inevitably results from all labour which is sterile from the mechanical point of view. Furthermore, this theory of heat as an excretion is not accepted by all physiologists. Professor Athanasiu of Bucharest holds that from the chemical energy contained in the glucose there issue originally all the forms of energy observed in the organism. He holds, contrary to Chauveau's theory, that heat also results from the same deposit of potential (chemical) energy without passing through the intermediate stage of physiological labour. According to this savant the supposed intermediate form of energy termed physiological labour is neither necessary nor logical, and as a consequence heat does not deserve in all cases to be designated as an *excretum*. It is this difference between the two views of the matter held by Chauveau and by Athanasiu which form the point of departure as the interpretation given above¹. Soddy gives his considered judgment thus: "The physics and chemistry, the mechanism of molecules rather than masses, of a living organism, differ from the physics and chemistry of non-living matter notably in character, but, so far as we can ascertain, not in any fundamental way. That is to say, the physico-chemical processes of the living body conform to all the laws which apply when life is absent. I do not wish to imply that bio-chemistry, as yet, has been reduced to a special branch of ordinary chemistry, but that all the principles that govern chemical phenomena in inanimate matter are observed in the

¹ Summarized from the *Revue Generale de Science*, June 15, 1920: "The Chemistry of Human Activity: Interpretation of the transformation of Energy that accompanies Muscular Work," by R. Valdesco.

processes peculiar to life. The terms 'vital energy' or 'vital force' have disappeared. Energy, like money, has many denominations, but these are honoured at fixed exchange rates throughout the universe, whether in the living organism or in the non-living world." ¹

Search for the Physical Basis of Consciousness.

There is now an attempt to find out the physical basis of intellect and emotion, a tendency to explain consciousness by the phenomena of chemico-physical transformations in the nerve cells.

The tropisms of Loeb, reflexes, automatisms and intelligent reactions, represent phases of evolution which follow one another without interruption. Intelligence, in its progressive ascent, manifests itself as a vital force and is a later product apparently superimposed upon the reflexes and automatisms, just as these succeed and are intermingled with the phenomena of tropism. Although automatisms lose their conspicuous identity and become blended in the mechanism of intelligent reactions, yet, if looked for, they still can be detected in the complicate structure of these mental products which are manifested in the most varied reactions of living beings, in their physical and ultimately in their social environment. The same physical and chemical forces intrinsic in the protoplasm (biological equivalents) become transformed gradually into nervous equivalents and, with progressive development of the nervous system, into psychic equivalents ². This hypothesis is strengthened by the experiments of Mosso, who showed that the temperature of the brain is frequently higher than that of the rectum or aortic blood. The brain temperature increases when the organ is stimulated to activity either by direct excitation or by drugs. Since conduction in the nerve is not accompanied by heat-production, the heat evolved in the brain must be due to nerve-cell activity. Darwin long ago suggested that emotional states are accompanied by a production of nervous energy in such amounts as to cause overflow

¹ Soddy, *Science and Life*, pp. 161-2.

² Bianchi : *The Mechanism of the Brain*, p. 8.

from the brain and that such overflow passes out along regular channels to excite those muscular movements associated with the normal physical expression of the emotions. Still more recently it has been shown by Waller that emotions insufficiently strong to give rise to muscular movement do yet cause in certain parts of the body electrical changes capable of ready detection and measurement by the delicate instruments available to-day. It is the experience of most observers, including Paterson and Jung, Starch and others, that mental effort also produces a reaction. Starch concludes that all the different types of mental processes produced by the various stimuli are accompanied without exception by galvanometric changes. Emotional processes and muscular activity produce the wildest deflections, while habitual mental activity and the process of usual attention produce the smallest deflections. Quiet mental activity, even when involving considerable effort, produces small galvanometric changes. The degree of intensity of emotional experiences corresponds very closely with the amount of deflection. "Even if a pure intellectual process does produce a reaction, it is very small, and is in no way comparable with the deflections produced in an affective process, so that for all practical purposes it may be considered that among mental activities only the affective processes have any influence in exciting the reflex. This is also confirmed by the fact that, after repetition of the stimulus, thereby reducing its emotive effect, the reflex becomes correspondingly diminished."¹ BurrIDGE suggests that all excitable matter has two modes of varying its excitability; and, applying this conception to the brain, there arises the possibility that these two aspects of mental activity, hitherto classed as intellectual and emotional respectively, may actually represent the two possible modes of excitability-change which a single substance can show, and not the different activities of anatomically distinct higher and lower centres. Such a possibility seems confirmed

¹ Prideaux: "The Psycho-galvanic Reflex," *Brain*, 1920. See also another article in *British Journal of Psychology*, 1921; and an article by Waller on "The Galvanometric Measurement of Human Emotion," in *Nature*, April 7, 1921.

by his experiments with alcohol, cocaine and morphine, each of which he shows exerts two such independent effects on excitability, owing to the existence of these two modes of excitability-change, where all previous observers had presumed one ; that a depression of excitability mediated in one mode can exist side by side with, and not interfere with, an augmentation mediated through the other mode. Applying such results to the nervous system, it would follow that a depression of one type of change mediated by a particular group or centre of nerve-cells could exist side by side with an augmentation of the activity of the same group of cells mediated through the other change. Accepting, then, the view that these drugs in their action on conduct decreased the capacity for intellectual effort and increased the capacity for emotional change, it would follow that intellect and emotion are the two sides of activity of a single centre of cells. Further experiments indicate the necessity of differentiation between excitability and the excitation. The two modes of excitability-change represent potentialities. The dynamic result is the excitation and is due to the interaction of these two potentialities. When next the task was essayed of obtaining a definite dynamic end-result in the heart, it was found that such an end-result could be composed of indefinite variations of these two potential factors. At the one extreme the end-result was almost entirely built up from the one type of potential change, at the other it was almost entirely built from the other type. Between them the same end-result was built up from an infinite graduation of both effects. There is general agreement that consciousness is somehow associated with excitation changes taking place in the brain, and, transferring these heart results, it is deducible that an excitation taking place in nerve-cells is built up of varying proportions of two potentialities which are obviously to be further referred to intellect and emotion. Consciousness thus is associated somehow with an excitation process taking place in brain nerve-cells and this excitation itself is built up from various proportions of two factors, which above we saw reason to believe mediated intellect and emotion respectively. Our conscious thought, then, at the one extreme

is made up almost entirely of emotion, and at the other almost entirely of intellect ; but it is never neither one nor the other. A series of cerebral nerve-cell excitations can be made up of infinite variations of the amount supplied from these two sources.

The amount of energy in the reservoirs is probably governed by heredity, which has left its impress on the physiology of the brain, as well as by individual variation and selection. Nervous energy flows out from these reservoirs, and its distribution between conscious thought and emotion is an outcome of reflex, automatic and habitual conscious adaptations of man. The living organism always struggles to maintain its balance in relation to stimuli ; and both conscious reflection and emotional discharge, often the accompaniment of inherited tendencies of reaction which have lost their reasons for existence, help towards its progressive adaptation. Thus the special mental activity should always be considered in relation to the general activity of the organism, and, moreover, the nervous system, which represents the machinery of adjustment, has the capacity to register and recall traces of movements of the past. This is often called organic and psychologic memory, and makes us realize how deeply-rooted the conscious reactions are in the field of the subconscious. No energy is lost in the process, and the transference and transformation of energy, the storing up or discharge of energy, which are all a function of the nervous system, are an outcome of an age-long process of organic selection and social heredity.

According to Hough, an accumulation of energy takes place, probably in the outside layer of the nerve-cell, and leads to the storing up of unstable compounds that form discharging conditions within the cell-body. These are exploded in response to stimuli arising without or within the nerve-cell, since in the process of adjustment we must consider not only the stimulus and reaction but also the elaborate preparations made to ensure response by adequate preparations for the discharging condition¹. It is a significant fact that if the stream of energy

¹ Hough, T. : " The Classification of Nervous Reactions," *Science*, 1915, N.S. xii., p. 407.

does not exceed certain limits called normal, organisms tend to preserve the unity of their reactions, even when subjected to unfavourable surroundings; and this characteristic may be observed in all living bodies from the simplest to the most complex. The phenomenon of co-ordination consists of varying degrees, and, as Sherrington ¹ has shown, in its simpler forms is represented biologically by the mechanical combination of various cells to form an individual. The integrative action of the nervous system is best observed in states of health; whereas the antithesis, disease, represents many forms of disintegration. Thus, consciousness itself ceases to be regarded as an entity; it is a function of the individual's adjusting or biologic capacity to react, which secures adaptation to the conditions of environment and changes in the environment in accordance with the needs of the organism. Consciousness is associated no longer with certain metaphysical conceptions, but with a view of behaviour and conduct that suggests the constant ebb and flow of vital forces, which are as delicately responsive to the demands made of an organism as is the mercury in the thermometer to the sun's rays ².

Thus it may prove to be the case, although the evidence is certainly not favourable at present, that consciousness, or rather the psychical basis of it, should be put together with heat, light and electricity as one of the accompanying manifestations of energy-transformation in living and, presumably, in lifeless things also. It is very important to remember in the course of the transformation of potential into kinetic energy in living matter that the kinetic energy may appear in various forms, and that if it appears in some other form than heat, the heat which one might expect to appear does not do so but it is replaced by light, electrical currents, movements, possibly psychic energy, if there is such a thing, or some other form of energy of movement ³. The new psychology is coming to recognize the behaviour of psychic energy in a manner closely

¹ Sherrington, C. S.: *Integrative Action of the Nervous System* (Yale University Press, New Haven).

² Paton, S.: *Human Behaviour*, chapter ii.

³ Mathews: *Physiological Chemistry*.

analogous in many respects to the working of physical energy in a mechanical system to which fresh energy is constantly being supplied. Especially close is the correspondence with the behaviour of physical energy in a living organism, where fresh energy is constantly being developed from the food of the organism ¹.

Bianchi's Analysis of Intelligence and Thought.

We give below a summary of the views of Professor Bianchi, who is a stalwart champion of naturalism in modern times and whose recent book, *The Mechanism of the Brain*, is a great contribution to this subject. Psychic energy (intellectual force) is not exempt from the universal laws which regulate the other energies of nature. The efficiency of the conduct of a man or country is proportionate to the mental quality (thought, sentiments, will) available for the overcoming of external resistances (popular habits and the impulses of other peoples) and the internal resistances of all the cerebral and extra-cerebral organs concerned, which are represented in consciousness by doubt, by fear, by difficulties which appear insuperable, and generally end in observance of the law of inertia. Intelligence is a biological fact. Thought is a dynamic phenomenon of life, for it arises essentially from the power which the higher living beings, in whom nervous tissue is developed and differentiated, possess of spiritualizing, to a greater or less extent, the world in which they live, the power to fix its images, to construct syntheses of these (from the most simple to the most complex judgments) to combine in the most diverse manner the products of the perceptions and their derivatives, with the modifications of the self, and with the reactions upon the world, whence is derived what we call experience. So it comes about that experience becomes ever more the safeguard of existence, which follows the law of adaptation to the environment, accompanied by an incalculable series of reactions. Some of these are stabilized by the physical and social environment itself; others vary *ad infinitum* in different individuals, in proportion as we get perfecting of the

¹ Tansley, A. G. : *The New Psychology*, p. 262.

perceptive process, which is the basis of intelligence, elaborated more and more by a perennial flow of old and new material. Thought is not a faculty, it is a complex functional product elaborated by co-operation of various functions and processes—transformation of external stimuli into images (perception), fixation and conservation of these images, construction with the images of mental complexes in series (to the constitution and number of which no calculation or mathematical formula is applicable) ; the modification of the ego under the influence of cosmic and social stimuli (emotions and sentiments). The biological conception of intelligence conflicts strongly with rationalistic intellectualism, which is founded upon an a-prioristic conception. Indeed, when submitted to a methodical process of analysis, intelligence always appears before us as a complex vital phenomenon with an anatomical basis. From sensation to intellect, from reflex to voluntary movement and to individual and collective conduct considered as a whole, there is nothing more than a series of processes, which are resolved into movements, identical in nature but extending from the most simple to the most complicated, movements which obey the fundamental law of evolution on one hand (genetic psychology) and that of adaptation on the other. Thought, therefore, is not an abstract reality, as has been represented, but a physiological fact, inasmuch as it is the product of the function of an organ which may be regarded as the result of the highest grade of evolution of matter.

Experience passes through evolutionary phases, the earliest of which may be traced in the obscurity of the unconscious and elaboration of the nervous apparatus under the repeated action of stimuli, these becoming summed together until they acquire the intensity necessary to overstep the threshold of conscious perception. One can convince oneself of the reality of a preparatory phase if one analyses the evolutionary progress of a civilized people (social phylogenesis), or, again, if one investigates the evolution of the individual (perceptive ontogenesis). In the same way, emotions and sentiments are physico-biological facts. The two fundamental emotions, pleasure and pain, are in man intimately bound up with

somatic phenomena ; they can be traced back to their genesis, *i.e.*, to the chemical alterations taking place within the organism—alterations which reverberate upon the kinæsthetic sense, which is the psychic foundation of emotion. In proportion as the organs become more evolved and acquire more intimate relations with one another, or, in other words, as the organic machine becomes more complicated, the emotions become accompanied by particular organic phenomena which at bottom are the most authentic expression of chemical modifications of the protoplasm under the action of external agents, such as we found to underlie the phenomena of tropism. In this notion is summed up the modern doctrine of energetics. From all parts of the organism which are organic laboratories there is a continuous flow of nerve-waves, establishing relations between the organs and the higher nerve-centres. With these are conjoined all the special sensations through which we experience a series of mutations due to immediate contacts with the external world, the ultimate result being the progressive comprehension of our own organism, which becomes ever more distinct from the environment ¹.

Conservation of Energy in Economic Life.

The law of the conservation of energy, *viz.*, that energy can neither be created nor destroyed but may be organized to appear in different forms, is one of the fundamental laws of physics, chemistry and physiology. The biologist some day may add its counterpart in the law of the conservation of psychism. The property of psychism may be a fundamental property of every atom ; nay, of every electron. But it is only when organized that the property appears to us in the form of an individual, a large psychic unit ².

Thus, while the evidence is clear as regards the laws of energy in the physical sphere, this is less definite in the psychical. Examining this physical cycle we may subdivide it into distinct portions. Starting with the simple inorganic substances, water and salts from the soil and carbon dioxide from the air,

¹ Bianchi : Chapters viii. and ix.

² Mathews : *Physiological Chemistry*, p. 267.

the plant cells form carbo-hydrates, fats and proteins under the influence of sunlight. These in their turn are transformed by the animal organism into carbon dioxide and salts, so that we return to our original starting-point.

In a similar way, agriculture depends on the amount of physical energy utilized by society in the simple inorganic substances furnished by the soil. Manufacturing industries start with the mineral products and raw materials of the environment, and transform them into finished products. This is the anabolic or constructive phase.

Just as the first portion of the biological cycle is associated with an accumulation of energy and is thus concerned with the synthesis of simple substances by the living organism, so out of the interaction between the raw materials of social life, *viz.*, population and the simple substances and forces furnished by nature, spring social growth and activity. Indeed, a dense population depends on that economic prosperity which in the last resort depends upon the energy utilized by population on agricultural and manufacturing operations. It is a dense population which supplies the basis not merely of economic expansion but also of a highly-developed political and civic life.

The second portion is concerned with the liberation of available energy as with the metabolic processes of plants and animals. Population and production being on the same level, social energy depends upon the amount of physical energy expended otherwise than in obtaining food. This is the catabolic or destructive phase of economics.

We find in the economic cycle that the finished goods are converted either into real income, which exactly remunerates the owners of land, labourers and owners of capital goods for the productive services which they or their possessions have rendered, or into capital goods which are reservoirs of energy exactly replacing the goods destroyed in the course of production. Thus the economic process of distribution corresponds to the processes involved in the recoupment or maintenance of the plant or animal organization, and in its development and energy transformations.

The process of valuation is a part of the wider process by which the living organism maintains itself by energy transformations. At one stage of the cycle which comes under the ken of the biological chemist, we find the organism moving and doing work and assimilating to itself out of the mixture of foodstuffs brought to it substances like itself which either recoup or maintain its growth after the energy expenditure.

At the corresponding economic stage we find a very similar energy transformation. The perennial stream is divided, and an unvarying volume of capital goods or energy stores flows one way and an unvarying stream of consumer's goods flows the other. One stream is concerned with the recoupment of the energy store, the other with the restoration of equilibrium of the life processes. Both of them are essential for fresh movement and activity, for a fresh cycle.

The science of consumption corresponds to the science of nutrition and considers the causes of the variations under diverse conditions of diet and health.

Unproductive consumption means a disturbance of the normal metabolism, an upsetting of the balance of life.

Inefficient production similarly implies a greater loss of the natural energy store than that which is obtained from a given collocation of matter and energy. This is the significance of the conservation of natural and human resources so that the natural energy store or the available energy in performing the life processes of society may not be wasted ; in other words, that we yield back or return to the store in an easily available form that energy which was drawn therefrom.

Value is a quality derived from the application of the principle of the equivalence and restoration of *energies* in production and of the *substitution* of energies applied to distribution. The principle of substitution gives rise to the principle of equi-marginal energies which governs all choice, including economic valuation, just as do isodynamic equivalents of foodstuffs in dietetics.

Man's choice of goods and the share of each factor in the distributive process are on the whole determined by the net contribution of energy of each good or factor. This is in

fact a corollary of the universal law of the collocation of matter and energy according to which it is only a given collocation that yields the maximum product, and any deviation from this is followed by diminished efficiency. This subordinates the intermediate generalizations, such as the law of diminishing and the law of increasing returns, to the modern conception of variable proportions of matter and energy. Applying this to the distributive process, we note a tendency for the entrepreneur to adjust payments to each of the factors so that he reaches empirically the principle of equi-marginal energies, although the net product which may be assigned to each factor is indeterminate and indeterminable.

Difference between Society and an Organism.

Returning to biological conceptions, we note that the function of the organism is to maintain its form unchanged, and that it does so by transforming into its own substance a mass of material different from itself on which it subsists. To make itself out of its food, some kind of an organizing force must be at work,—organization, indeed, being at the bottom of everything living, not only of the material side of our existence but of the mental as well. The great difference between society and an organism is not that the former shows the organizing principle and the latter does not, but that the difference in organization is such that society can change its form. The process by which the stream of physical and psychical energy flows through the different elements of society can be altered by it according to ideals and purposes mentally valued and realized.

This implies that the organic and social energies into which the inorganic forces of the environment are converted are reconverted for economic and moral well-being according to the ends and ideals of the race. Whether in the accumulation of social potential energy (traditions and social inheritance), or the synthesis of organic and inorganic material under the influence of social consciousness or in the liberation of available energy in the life processes of society, social direction plays an important part. Religion, art and science, however, still

depend on the surplus of energy gained or rendered available over the energy spent or placed beyond control.

Cycle and Rising Spiral of Social Energy.

The interaction between the inherited physical, intellectual and moral capacities of a stock with the natural resources of the region thus gives rise to a cycle of social energy which is again perpetually reconverted into simple physical forces and substances. These latter, as well as the liberation of energy into more available forms, serve as the basis of a fresh cycle.

These constitute wealth which, in all its forms, natural or human, social or national, is a perennial stream which is perpetually fed and renewed as it perpetually evaporates and is perpetually used up and wasted. But, in such a bio-psychic organism as is a society, the cycle is not repeated continually on the same level but rather travels as a rising spiral. Production becomes more efficient, and this means a more scientific exploitation of the natural fund of energy and a better organized collocation of given matter, as imposed by labour. There is accordingly an ever richer return or restoration to the common fund or natural store of the social energy consumed in economic life and an ever greater output of available energy liberated for consumption or for further production.

In the art of consumption not only is there recoupment or restoration of energy spent in work, but also the capacity for fresh creation and construction follows on physiological restoration. The uplift of consumption means a progressive expansion and differentiation of personal values and socialized wants, which provide for the conditions of reproductivity (and restoration) as well as new creation. Thus the cycles of production and consumption are on an upward course. In a progressive community the social energy, liberated by improvements in the arts of production, gives rise to new desires and fresh creations and sacrifices to realize them. Not only are certain necessities, comforts and luxuries provided for, but there are greater individual initiative and creativeness, and larger creation and enjoyment of those forms of wealth which progressively increase and multiply.

Social energy is reconverted into the simple substances whence it started or into more easily available forms of energy, but these now are returned in ever greater measure to the common fund of the community or the race, and are used for recoupment, as well as for maintenance and growth, quantitatively as well as qualitatively. Population improves in vital capacity, talent and social personality. Distribution attains a more and more equitable sharing of the products of nature and social energies. Society can adjust consciously among its different elements the sharing of the total physical and social energy which flows through it. It thus brings forward in every field qualitative differences and developments which add a new dimension to the cycle of the social process. Thus the continual interchange of matter and energy between a population and the region it occupies gives rise to an ever-ascending spiral which projected on one plane is a cycle but in space and time shows upward progress.

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CHAPTER XV

BIOLOGY AND ECONOMICS

Basic Sciences of Economics.

The immediate bases of all the social sciences, including economics, are psychology and biology. Social life implies the psychological interactions between the individuals of a group, which come under the domain of psychology. It is also a part of organic life, and consequently the laws of biology apply to the phenomena of social life, which are again wider and deeper than the phenomena of human life. Economics has been based on an inadequate psychology and an insufficient biology.

Malthusianism Superseded.

We have shown that the logical intellectualism on which classical economics based its postulates is far removed from the tendencies in modern functional and social psychology. Indeed, the recent developments of instinctual and social psychology have revolutionized the classical foundations of economic science. Again, classical economics deduced few principles of interpretation from biology. It tried to derive the principle of the growth of population from organic life, but followed a wrong lead. The spell of Malthusianism, with its glorification of the ancient automatic checks of war, pestilence, and famine, has been broken, but not before immense mischief has been done. Malthus's great generalization, which gave the cue to Darwin, has not been verified by later economic history. Psychologically speaking, the great defect in the Malthusian theory was its emphasis on the desire for food as a biological

need. We now know that prudential restraint and artificial checks operate more markedly on the birth-rate among the higher and middle classes than among the lower classes. Birth and death rates depend on a variety of causes, geographical, ethnic and social. Race suicide has become a great problem amongst some of the Western nations. On the other hand, the fecundity of the Mongolian has been a menace to the West. The effects of climate and race; the tendency to migration and its effects on the birth-rate; domestic economy and ethics centring round the value of the child; urban and industrial or agricultural conditions: all these demand enquiry in studying the movement of population. A modern study of population must include also an investigation into the birth-rates for different layers of the population, which show very marked differences in the standard of living. Such an investigation would examine in this connection the effects of modern democracy and spread of sanitation and education among the working classes, as also of legislation and labour organization for the uplift of the standard of living. It would find out, also, the influence of psycho-sociological factors, laws, customs, moral and religious beliefs, etc., in their relation to stability or otherwise of family life, control of the size of families or ignorance and carelessness in this respect, biological degeneration, dissipation, etc. Nor must it omit the neo-Malthusian movement for the artificial regulation of births which is everywhere coming to have great significance with respect to the problems both of the volume and quality of the population. At present there is no more knowledge on the basis of which to regulate the volume of population than there is to regulate its quality. But Demography and Biometrics, as branches of biology, are making available new data, for utilization by economists who hitherto have emphasized only the quantity of population that is sought to be controlled on the basis of the study of the effects of its growth upon economic conditions¹.

¹ For a study of population and poverty, compare my *Principles of Comparative Economics*, vol. i.; also Parmelee: *Poverty and Social Progress*.

Biological and Eugenic Conclusions Affecting Economics.

Some of the more important conclusions of the biologists and scientific eugenists which have great significance for economics may be summarized in this connection :

(1) The manifold racial effects of industrial development are in many respects unwholesome. A forward agricultural policy is an imperative demand of race biology as a counter-balance to industrialism, which so often proves an enemy to the race and to the health of the people.

(2) The question of distribution is also very important. It is the poorest classes who are multiplying more rapidly, and the poorest class, owing to the fact that the more richly gifted individuals are continually raising themselves out of the poorest class into a higher social stratum, are also the most poorly endowed with natural qualities. Owing to this any increase of numbers to-day, and for so long as this propensity continues, must react injuriously upon our civilization. This conclusion is so important that a great effort should be made, *e.g.*, by the application of the Binet-Simon system, to verify or refute it.

(3) Since for more civilized countries the necessity for further restriction of the birth-rate sooner or later must become imperative, if this should occur mainly in people of better endowments who already have a low birth-rate, the deterioration of our racial inheritance will go on at an accelerated pace. The weakened *moral* and declining birth-rate of the middle class of brain-workers—the technical, managerial, professional class—result largely from the industrial unproductiveness of the modern household, for the industrial revolution has forced manual labour out of the home, and imposed it upon machines and upon the inferior order of men. When the alert and vigorous middle class rises in the scale of living and is thwarted and stunted by both capitalist and communist consciously or unconsciously, it is the greatest menace to vitality and to the progress of civilization ¹.

¹ See Fisher : " Impending Problems of Eugenics," *Sci. Monthly*, vol. 13, 1921.

(4) From the point of view also of the environmental inheritance there is a lowering of the standard or at least a check to any advance which otherwise would be in progress. The excessive output of children is not only from homes poor in natural qualities, but from homes poor also in "traditions," and the evil habits in sordid surroundings are continually being passed on to posterity by home contagion or environmental inheritance. There also evolves what is characterized as the degenerate slum type of physical characters and inheritance.

(5) Not only are civilized societies extensively failing to recognize natural ability and so losing its services and rewarding what ability they discover with extinction, but they are busily engaged also in artificially and forcibly preserving the defective stocks they contain, by coddling them in every possible way and keeping from them the knowledge and the temptations which, but for social interference, would so work upon their congenital tendencies as to lead to their extinction. Eugenists tell us that we are faced thus with a failure of man's social instinct, converting it into a danger to the society it was evolved to protect: the only biological analogue would seem to be the extraordinary practice of some ants of breeding in their nests certain beetles and caterpillars which prey upon their larvæ ¹.

(6) Above all, the modern system of production and distribution has upset the fundamental biological law of work and life, and thus has brought about serious disharmonies in the social organism. Man must cultivate now a true sense of values so that work is of the right kind and compatible with a reasonable amount of the real joys of life, and life's functioning. Secondly, his system of production must not exhaust the available sources of energy at an extravagant rate. If any race becomes dependent upon the continuance of those conditions over which it has no lasting control, then, when those conditions change, that race is doomed and opportunity is

¹ Darwin: "Population and Civilization," *The Economic Journal*, June, 1921; Holmes: "The Trend of the Race," *The Eugenics Review*, January, 1922; and Corbin: *The Return of the Middle Classes*,

given to some less specialized and more plastic type to take up the running on new lines, gather fresh supplies of energy in its own way and repeat the cycle. Thirdly, it is not only the exhaustion of our reserves of energy and the changed conditions of life that we have to fear. We have to ask ourselves whether we have not sacrificed vital efficiency in the interests of the production of wealth and carried the accumulation of capital too far, so that we have been tempted to expend our strength in self-destruction rather than self-preservation. It is evident that we often seek values or satisfy our wants in ways which are, biologically speaking, injurious both to the individual and the race ¹.

Biological Sciences as Allies of Economics.

In all these economic aspects of race biology we should utilize our knowledge of nature and society and our enhanced control over all vital forces to rectify any maladjustment of the social and economic forces to our vital needs. In particular we should derive object lessons from the story of those steadily advancing species of animals which have marvellously progressed, yet not through cycles of defeat.

Every economic problem has a biological aspect, but not only do we not recognize that human societies and animal societies have been the result of the same life process and refuse to derive any lessons from the study of mental and social life of the animal for explaining economic phenomena in their genesis and development, but we ignore also some of the special biological sciences which are more closely related to economics than others. Thus, physiology in the sense of the laws which govern the bodily activity of the individual, is very useful in order to interpret scientifically the recoupment and efficient maintenance of labour, to measure comparative productiveness of different grades of labour, or to estimate muscular output with special reference to different kinds and grades of work. It is well known that excessive strain and

¹ Dendy: "Evolution and the Future of the Human Race," *The Eugenics Review*, January, 1921; Conklin: *The Trend of Evolution in the Evolution of Man*.

monotony in modern factory life, exploitation and bad housing conditions, etc., act as depressants and lead not merely to lower output and larger number of accidents, but also to physiological reactions in the forms of vice and intemperance which are inevitable consequences of nervous relaxation in the case of lowered *moral*. But these pathological conditions have not been scientifically interpreted in economics. Even the phenomena of muscular and nervous fatigue, which are so important in determining the relative costs of production, have not as yet received adequate recognition in economic theory. Scientific management has now become a conscious art, but it is only business men who are profiting from scientific observation and experiment in modes of organizing and conducting business, employing labour, advertising and selling over the counter, etc. Physio-psychological tests to-day are being used widely in Europe and America for objective measurements of the labourer's abilities, achievements and aptitudes under working conditions in modern industry, but the economic theory of wages does not recognize these differences. Again, comparative physiology, which alone can explain wage-levels and differential capacities of labourers in different countries, has not touched the fringe of economics. Nor can we ignore the importance of dietetics with its analysis of various foods and their values as producers of tissue and energy. Its conclusions, with special reference to the proportion between proteid and starch consumption in different national dietaries, are important aids in determining the standards of consumption of different countries. Similarly, a solution of the problem of acclimatization is an indispensable step in framing any theory of economic imperialism and labour migration and settlement.

Evolutionary Laws and Factors.

The laws and factors in organic evolution are also at work in economic evolution. The law of heredity operates in the appearance of well-known instincts and aptitudes in occupational castes or certain grades of artistic and specialized labour and craftsmanship. Whether we may regard talent in art or

occupation as a transmissible character or not, we have to recognize the influence of the *milieu* and of a predisposition or bent towards art or occupation. Indeed, the biological enquiry into the transmissibility of acquired characters is an aid in focussing all the complex lines of hereditary influence in economic organizations. Variation appears as individuality and originality in social evolution; in the economic system this to-day is being discouraged for the sake of mechanical efficiency in standardized production. Such movements of economic reform as the arts and crafts movement, co-operative production and self-government in industry, all aim at securing greater opportunities for individual initiative and variation in economic organizations. The science of heredity, with its laws of inheritance and variation, and its application of statistical methods, will lead to a more precise investigation of the economic theory of hereditary occupational specialization, of the relations between individual production and collective production, between individual and socialized consumption, and of the general relations between art and mechanical production in industry, or between individual choice and law in systems of succession. The significance of heredity for the pathological conditions of body and mind opens up another new and useful application of biology to the study of economic problems. Physical deformity and disease are potent forces for poverty and pauperism which represent pathological economic conditions. If they are hereditary, the only way to deal with them is to breed them out. Eugenics thus comes in aid of economic progress. If they are due to malnutrition and unhealthy domestic surroundings, these must be carefully studied as a portion of economics. If they are due to the environment and the nature of industrial activities, they call for State regulation and economic reorganization. Mental infirmity arising out of nervous and functional abnormalities and diseases is also a cause of poverty and its attendant evils. Psychiatry is now offering important conclusions for the study and elimination of the causes of pathological economic conditions, but economics seems to take little notice of them. Economic pathology is, indeed, an important though neglected

branch of applied economics whose object is to furnish a scientific basis for the art of economic improvement.

Biological Light on Labour and Capital.

Biology throws light on the fundamental natural laws of labour and capital. Green plants build up from water, carbon dioxide and mineral salts the organic capital which is the ultimate source of all nourishment to the rest of life. Animals eat green plants or else eat other animals that eat green plants. The waste products of the current of metabolism and the final products of decay are diffused in the soil and form the basis once more of the green plants' activity. Organic capital derives its value from service to the entire biotic community. Out of the mutual helpfulness of each part, which distributes its surplus among the other parts and lives peaceably on what is left, nature has evolved "the complex web of life". The different species of living things and their members are bound up, though but loosely, into a general whole¹. In the organic world industry is the chief mode of service, the origin and use of capital are connected with a mutually interrelated system. The different organs of the individual organism are knit together, and they all help towards the maintenance of life as they feed from a common organic capital. The worker bees draw from the flowers, disgorge the honey from their mouth and accumulate capital for the entire hive. Birds build their nests, beavers their dams, for the uses of a growing life. The tremendous toil of the distinct types of ants in a colony is adapted to the perpetuation of the species. Whether in the building of nests, or the storing of food in a colony, we find labour and natural resources deriving their value from the service towards the maintenance of life and species. Consumption is not idle, but directed towards species-regarding ends. Among the social insects, capital and individual effort are used for the whole consuming community; specialization of organs and functions serves the need of maintaining the entire colony and is adapted to the task of perpetuating the species, with the result of an advancing nervous and social organization.

¹ Huxley : *The Individual in the Animal Kingdom*.

On the other hand, is not the present economic order the very opposite of industrial free service for the common welfare of consuming community ?

Suggestions to the Economist from Biology.

The physical nature of the organism itself gives us also an idea of the natural economic order. The organic expenditure of the onset of the reproductive function necessarily checks the vegetative one. In flower anatomy we find this subordination of the vegetative life by the reproductive : witness the reduction of the number of stamens and carpels from indefinite to few. As the natural variations of plants are summed up in terms of vegetative and floral preponderance respectively, so those of animals fall into the broadly recognizable contrast of passive and active, sedentary and errant, up through the great lifts of evolution and down through its ever-recurrent falls[†]. The evolution process thus presented suggests that the vital organs of society, some specialized to beauty as in plants and animals, and others to the expression of joy as in birds, must be knitted together for the welfare of the community as a whole. Arts and modes of enjoyment must subserve social ends, labour and wealth must be subordinate to consumption, and consumption to the law and purpose of social life, even as in the organism the nutritive factor is subordinated to the all-important species-regarding functions. All this implies that in so far as we have production for profit, acquisition of capital and specialization without due regard to social functioning, restriction of labour supply in order to wring out a larger share of the social dividend, in one word, the subordination of the purpose of life to individual struggle and development, we find the process and factors of evolution practically reversed,—an unpacking as it were of the threads of life. Thus, in spite of the fact that the organism exhibits intricacy of detail and individuality of pattern, its growth will suffer an inevitable arrest. We have to-day a high degree of specialization, but capital and specialized ability are not used for the community. Consumption is not enlivened, as in social insects and animals, by a significance of the meaning and purpose of life. There

[†] Geddes and Thompson : *Evolution*.

is a vast amount of wealth or social gain created, but undeserved poverty and forced idleness persist in the midst of superfluous enjoyment and conspicuous waste, with the result of the disintegration of social unity and purpose. Modern industrial societies, with a superabundance of wealth in the hands of a small minority, and the misery of a very large part of the population, are, indeed, replete with pathological economic phenomena which may be attributed to the nature of the industrial system and social organization. Such pathological phenomena sometimes may be conditions of economic progress which takes place by way of reaction or restoration of the norm. There is sometimes a return to simpler and more primitive types of economic organization as seen in guild socialism and sovietism. This resembles that kind of degeneration which is simplification leading to fresh evolutionary advance. They also may be characteristic of a stage of transition to a better order in which there will be fewer pathological conditions, as in evolutionary as distinguished from involutionary or atavistic abnormalities in the organic series. Or, again, they may be attributed to want of adaptation leading to internal rearrangements and readjustments in the conflict and competition with a different and opposed economic type, like the febrile and other symptoms, which appear in the struggle of the phagocytes, safeguarding the blood of animals against the attacks of injurious microbes. Some of these phenomena have been dealt with in my *Principles of Comparative Economics*. In investigating the pathological conditions arising out of a conflict of economic systems in international economics, we are to ascertain whether or not these are apparently a necessary preliminary to a progressive adaptation to a more normal state of society; and, if not, to what extent they are acting as a hindrance to the coming of such a state. The norm again is to be determined by the social values and standards of different regions.

Bionomics or Ecology.

This leads us to another biological science which is particularly connected with economics. Bionomics or ecology has far-reaching significance in economic analysis. There is no

more important concept in biology than that of adaptation, with which ecology or bionomics is mainly concerned. Economics hitherto has tried to understand man apart from his environment and neglected the materials and methods of plant and animal ecology. From the biological point of view wants are a direct outgrowth of instincts and needs felt by organisms in adjusting themselves to the environment. Bionomics gives us the law of the progressive adaptation of wants, which is deeper and more scientific than the law of the geometrical progression of wants, which misses not merely the quality of wants, but also the effort and capacity of man for perceiving and then moving towards an environment that best satisfies his wants¹. Adaptations of economic forms and organizations to different environments have given rise to different economic types. Bionomics thus furnishes the preliminary foundation of regional economics, dealing with the influence of environment and tradition upon economic types and their evolution, and with the internal adaptation of organ to organ in the particular *milieu*. In my *Regional Sociology* I have tried to present sociology on the basis of a scientific classification of types and regions.

Food Supply in Anthropology and Economics.

Physical anthropology, a branch of biology and defined as "the Zoology of Man", which deals with the problems of man's origin and place in animal evolution, also has important bearings upon economics. In animal evolution, the process of nutrition is fundamental and is a conspicuous factor in bringing about the progress of the species, though its significance was not fully understood by Darwin and his disciples. In the course of organic evolution the activities connected with nutrition have bound together the members of one species. Where there is an abundant and stable food supply, large numbers of the same species live in close proximity to one another and there

¹ Keller in his *Societal Evolution* gives an interesting description of wonderful human forms of adaptation through the "maintenance-mores" among backward peoples. Compare also the excellent chapter on "Environment" in Marrett's *Anthropology*.

develop physiological and psychological inter-relations in the processes of both nutrition and reproduction. Espinas discusses fully the influence of the function of nutrition on the formation and development of social groups, while Houssay, in a charming volume, illustrates the division of labour and psychical inter-relations in insect and animal evolution. We see in a similar way division of labour between man and woman and between man and man, and a differentiation of primary occupations of hunting and fishing, shepherding and agriculture, mining, manufactures and commerce, in the early history of the human race. The primitive division of labour between the sexes by which woman undertook the social occupation of agriculture, weaving, or the work of carrying weapons of hunting, warfare, etc., while man took to hunting, offence and defence, arose out of the conditions of food supply. Man's defence against enemies is connected with the food-process because it is largely in connection with the maintenance of a stable food supply that conflict arises. The division of labour between village and city, and the evolution of the different occupations and industries, are phases of the food-process, which has contributed powerfully to the evolution of different types of economic and social life under different environmental conditions and limitations. The economic process is thus a function of the process of nutrition ; economic organization and evolution are a direct outgrowth of the elemental nutritive function, which is but a phase of the all pervasive life-activity ¹. Natural selection favours those social groups among whom there is intelligent co-operation by which organisms can co-ordinate their individual needs as regards food supply with the interests of survival and reproduction of the entire species. It has thus happened that the most successful and in general the higher animals live in groups with a high degree of mutual co-operation and division of labour. This suggests that the goal of economic progress is the collective control of production, consumption, and distribution in the interests of the community. The biological view of economic life is at least far removed from the economic individualism which is still the basis of modern

¹ Cf. Ellwood : *Sociology in its Psychological Aspects*.

analysis. It also gives but little support to the emphasis of mutual struggle that looms so large in the economic theory of distribution. It is true that the conflict of group with group for the possession of means of sustenance (with its human counterpart of economic offensives and wars for a "place in the sun") has been an important factor in the social evolution, but this is far different from the intra-group competition or struggle for existence among individuals which has not been so successful as the law of co-operation or social union.

Darwinism and Economics.

We have moved far away from the social philosophy of Darwin's teacher, Malthus. Malthusianism determined Darwin's main tenets, but economic philosophy, once the guide of biology, is now completely its slave. In fact, Darwinism has been like the old man of the *Arabian Nights* tale who, at first courting for help and lodging himself on the shoulders of the unwary traveller, has defied all attempt at expulsion and now is leading him to arid deserts and miasmatic jungles. Indeed, Professor Patrick Geddes has pointed out that the biological emphasis on struggle is entirely congruent with the keen competitive condition of an industrial age.

Fallacies of Conventional Darwinism.

* Professor Thomson recently has discussed the fallacies in a careless Darwinism, and we may quote him in detail. Corrections of the idea that the struggle for existence is necessarily an internecine competition between kin around the margin of subsistence (of which there are remarkably few good illustrations) have been offered, indeed, by Spencer, Kessler, Geddes, Drummond, Kropotkin and others. The competitive form of the struggle for existence is not illustrated when all the members of a species meet a familiar difficulty with equal effectiveness, the capacity for the response being ingrained in the constitution. But it is interesting to turn to these securely established ways, to see how large a proportion of the energy and time at the disposal of living creatures is spent in activities which make not for self-increase, self-stability, or self-preservation, but for

the welfare of the family, the kin, and the species. Neither naturalists nor philosophers have realized adequately the extent to which there is throughout animate nature a subordination of the individual to the species. Survival is often the reward of the individualistic competitor, but not less frequently of those with a capacity for self-forgetfulness¹.

Indeed, "as in plants the species-maintaining functions preponderate over the individual ones, so that from animal to agave the plant must flower although it dies, so the same preponderance appears in animals. That increase of the reproductive sacrifice which first marks the mammal, and then marks each of its successive uplifts of further progress (from monotreme to marsupial, and thence to placental), that increase of parental care, that frequent appearance of sociality and co-operation which, even in its rudest forms, so surely secures the success of the species attaining it, be it mammal or bird, insect or even worm—all these survivals of the truly fittest, through love and sacrifice, sociability and co-operation simple to complex—need far other prominence than they can possibly receive even by some mildewing attenuation of the classic economic hypothesis of the progress of the species essentially through the internecine struggle among its individuals at the margin of subsistence"².

The New Darwinism.

Modern biologists thus complete Darwin's account of struggle by that of mutual work and services, of combined and co-operative nutritive and sexual gestation and maturation, which collectively maintain the conditions for a purposive and a reciprocal common life of organisms. We thus arrive at a more adequate view concerning the place of individuals and of groups to which they are organically related. The classical hypothesis of individuals working out the progress of species by mutual struggle at the margin of subsistence yields its place to the concept of mutual co-operation of large groups in the creation of bio-economic utilities. Indeed, the new

¹ Thomson : *The System of Animate Nature*, pp. 315-16.

² Thomson and Geddes : *Evolution*, pp. 246-7.

biology supplies us not merely with the concept of the group as a total harmonious entity, but also with the fundamental law of evolution by co-operation, which both in the biological as well as in the sociological world is the actual standard of bio-economic usefulness, and social morality, failing which organisms suffer the penalty of degeneration and of general decline. Not merely among the cells of the same plant or plants of the same species, but also among the classes of higher plants and animals, and among the animals themselves, mutual aid and useful combination are essential as a method of evolution to maintain or raise the level of existence and the security of life of the entire living zone. It is thus that a whole plant and animal region is differentiated from other regions and maintains its integrity by the cumulative effects of beneficial correlated circumstances. Competition as a biological law is not so successful as combination. The predatory and competitive groups have become lone, few, exterminated, while the peaceful and social types have increased to ever greater numbers of individuals, to ever more ramified species and colonies, and to ever-advancing nervous and social organization. It is true that among these there are sexual fights between individuals, as with deer, bulls, horses, etc., or between groups from separate colonies of the same species, as with ants, pigeons, or other creatures, mainly on account of the food question. But these are comparatively rare, and are largely, almost wholly, dependent on hereditary, morphological and physiological tendency to social acts that have elevated alike the individual and the social race ¹.

Social Co-operation of Insects.

The study of ant and insect colonies shows us at their best the functions and purposes of co-operation and specialization as more elemental and primitive than those of competition and struggle: indeed, co-operation and division of labour are clearly traceable even down to amoeba, volvox, hydra, and their like. There are primitive biological associations of higher and lower grades, seasonal or stable colonies, where laws of

¹ Macfarlane: *The Causes and Course of Organic Evolution*.

social co-operation are obeyed as implicitly as if they were proclaimed intelligibly to all. It is a nicely-adjusted scheme in which a strike of any of the members will lead to the ruin of the whole social fabric, and each plays a special part in the life of the group, serving other individuals in return for their service. Both among the social bees and the ants distinct types or castes have been evolved as the visible result of a psychological and physiological division of labour, such as the fertile queens, the reproducing males and the sexless individuals whose tasks are nest-building, foraging, and nursing, so that the species may be perpetuated¹. The way in which the bees act in times of social crisis to destroy unsocial or useless elements, and in which individuals devise means for their own death in the interest of the community, will be at once a joy and a terror to extremist believers in economic democracy. Again, the social care for the young, from the egg to the almost adult individual, which we find among some social wasps, bees and ants, is an object-lesson to post-war economic reformers, who are dissatisfied with man's often crude and indeterminate endeavours to look after the young, restricted mainly, and often imperfectly, as these are to the family rather than the entire social community².

Further Economic Lessons from Animal Life.

But it is the ants who in their co-operative life show "a more careful, elaborate and sagacious provision for the future than does any other group of animals, except some of the highest races of mankind." This is seen in their methods of clearing roads, of rearing nests, and of tunnelling, brick-making, plastering and door construction, of conveying food, building granaries or other store-houses, of drying grain and nibbling the radicle in grains that are to be stored, of cultivating fungi, of storing honey, of making holding-places, of keeping and feeding aphides in order that they may be milked, of providing for the maturation and flight of queens, and in the care of the

¹ Wheeler : *Ants*.

² See Macfarlane : *The Causes and Course of Organic Evolution*, which has approached social life and evolution from the biological side.

young through successive stages of growth. Even in their subterranean life as a means of defence and of aggressive persistence, they seem to anticipate the advantages of modern trench life and war ¹! Beavers similarly show great capacity for gnawing trees into suitable lengths for guiding them in the water, for hauling them to their settlements, for rearing lake-dwellings therefrom, for placing, plastering, and uniting them in so doing, for co-operating with one another in the common colonial settlement, and for defending the whole.

Many of the ants, as well as, to a lesser degree, beavers and dogs, are indeed higher than some of the apes and human savages in the complexity of their constructive and general cognitive acts. Such is attributed to the higher social organization of ants and to the more primitive though yet advanced social organization of beavers and dogs. And yet human society is much higher in the grade of social evolution than an insect-republic ². For in the ethical plane we have risen to human values which ordain that the individual in himself must live and embody the collective and entire life, even though the community lives in the individual, and this is impossible with that rigid or over-specialization of its members seen in an insect colony, by which the individual is fore-ordained owing to its inherited structure for a particular kind of function and nothing else. From this it is easy to draw conclusions regarding the loss of bio-economic utilities in a system of labour in which the creative impulses are sacrificed to maintain the efficiency of the industrial system. The distinction between the directing and the directed classes in economic as well as social organization has preserved the freedom and autonomy of the individual interest, though it has made individual revolt impossible in the insect community. Biological advantage can only accrue, however, if, in playing the special part in the life of the group, the diverse cells live not a part life, but the entire life of the community. In insect associations this is impossible on account

¹ Macfarlane: *The Causes and Course of Organic Evolution*, pp. 567-8, 772-3.

² See Crompton's *Doctrine of Evolution* for a recent interpretation of social evolution as a biological process.

of the hereditary determining factors which operate among them and which make a particular group unfit for a wider range of functional activity. In human associations this can be possible only when the functional groups are not rigid and stereotyped, but natural and elastic, and can unfold the concrete and entire personality of the individual. This is the bane of the Indian communalism, which often has degenerated into rigid and inelastic caste organization. Not only Eastern communalism but also the tentative Western experiments in group formation to-day about which we shall speak presently, may all be judged by the warning lessons derived from the process of evolution of insect communities and cell aggregates. It should be observed here that, among the highest examples of social animals, the structural differences among the individuals are not the most profound. Among the honey bees, there is a structural differentiation in the matter of only one special work or function, *i.e.*, of reproduction. Among most kinds of ants, there are three kinds of individuals, the winged males and females and the wingless workers, but each one knows enough to perform various distinct functions. The differences between workers and queen seem to be mainly results of nurture; the peculiarities of drones are linked to their sex; but there are sometimes several castes of workers and soldiers, especially among the termites. This suggests that a variety of gifts is useful; that a certain variability among individuals might be useful in contributing to the progress of a human society. Among the termites, the workers and soldiers seem to be suppressed males as well as females. Thomson suggests that, since the workers and soldiers do not usually grow up, *i.e.*, are not tormented by sex impulses as the drones must be, the maternal care of the non-productive worker ants and bees, and the protective vigilance of the non-reproductive soldier-ants and soldier-termites, illustrate what one might call the shunting or sublimation of the sex urge¹. In the evolution of social animals, the specialization of the mental power has made unnecessary the structural differentiation of individuals, and is the most potent factor in the development

¹ Thomson : *What is Man?* p. 97.

of a highly specialized communal life¹. Both stability and plasticity are essential factors in the social evolution of animal and human associations. Over-specialization in the economic domain may bring about loss of plasticity, which leads to extinction ; without stability, again, the organic gains of ages cannot be made the basis of fresh advance.

Sociality and Brain Development.

The antithesis whether social evolution is governed by biological laws pertaining to the life of individuals, as was maintained by Spencer, Schaffle, Novikow and others, or by social feelings and economic determinism as maintained by the idealists and socialists, need not detain us here. The guiding principle is the "unconscious law of adaptation and natural selection aided by the accelerated evolutionary movement of the psychic activities caused by modifications determined by the group". Sociality here is thus an important factor. We find it in the most varied forms in insects, birds and mammals. In middle-grade and even lower-grade monkeys it assumes rather human-like features. These no doubt may be rudimentary, but they nevertheless present such manifestations as leave no doubt that sociality actually exists. It has a long and slow evolution. According to Bianchi it is an integral element of mind and disappears entirely, so far at least as its symptomatic manifestations are concerned, after mutilation of the frontal lobes, and in almost all forms of disease in the human subject. It has been held that a developed sociality gave a longer pairing arrangement in the primitive human family, with prolonged human infancy, and that this brought on the more developed brain with the erect position. Nor should we neglect in this connection the effects of language, writing and art, which in their turn imply certain habitual cerebral connections or ideo-motor adjustments². Bianchi believes that the physico-psychological problem of sociality should find its most legitimate interpretation in the facts brought to light by researches in the fields of anatomy,

¹ Jordan and Kellogg : *Evolution and Animal Life*.

² See Giddings : *Principles of Sociology*, p. 229.

experimental physiology and human pathology. The social sentiment emanates from a combination of sentiments and ideas (the intellectual elements of the social sentiment), the latter more than the former, which together represent a complicate function, which in turn has determined an enlargement of the cerebrum and a differentiation of its parts. With the development of the posterior sensory mantle and of the mnemonic activity attached to individual and collective experience, there is the progressive perfecting of the perceptive and emotive capacity as well as acceleration of the directive power over conduct due to the greater coefficient furnished by the memory of past experience derived from life in common (reciprocal defence and protection, greater efficacy of life in common in the struggle for existence, beliefs, customs, etc.). We conclude with Bianchi's observations of the influence of biologic and psychic factors on economic evolution.

Economic Evolution Influenced by Biologic and Psychic Factors.

Economic organization is the effect of a biological situation and it may promote evolutionary economic advances, which are regulated by a number of individual and collective psychic factors, mainly the following: the different evolutionary capacity of different individuals belonging to one and the same group in the same environment; secondary variations of the environment and differentiation of labour, from which arise biological and psychological variations; differences in the mode of perceiving and feeling; differences in the amount of mental capital available and in the aptitude for utilizing it and for acting.

If it is true that functional variations correspond with structural modifications, and that morphogeny corresponds with psychology, we will take into account the fact that along with the general features, common to the social group, we meet with individual differences. The former are summed up in customs and creeds, the latter vary considerably because they depend upon a great variety of factors, amongst which are to be enumerated the following: the complex and varied

mental structure of different individuals and their genetics, their predominating emotions, their morphogeny—which may be altered under the influence and impulses of psychic states ; the numerous circumstances under which fecundation and gestation take place, intoxications of the nemasperm and the ovule (a product of civilization), crossed matings, and differences in occupation, which in turn determine new morphological variations and new functional developments, and open up new fields of ideas and aspirations ¹.

Man's Social Heritage.

Biology tells us that the human animal must become more and more specialized in order that progress can continue. The evolution of the mechanism of the brain suggests that reciprocal mental stimulation comes to play an ever more considerable part in higher forms. But it points also to the fact that to suppress the complex and varied mental life of the individual for the benefit of the community is a biological crime. There is no doubt that over-specialization in modern civilization has often inhibited the myriad potentialities of human nature, checked individual variations and led to the sacrifice of that plasticity which differentiates man from higher mammals. And yet specialization we must have, and this must continue in ever greater degree in order that the community, as a whole, may survive in the struggle with other communities. The solution will be found in a greater socialization, on the one hand ; and, on the other, a greater heterogeneity of the individual life, a large toleration of individual initiative and creative ability, and the accompanying individual attitudes. This is possible only when economic, political and cultural groups become more vital and elastic and allow the largest opportunities to the individual to divide between them his varied allegiances in satisfaction of the many-sided demands of his complex nature. These groups represent the external heritage in which man's gains are registered, which are available for the community. The social heritage includes perma-

¹ Bianchi : *The Mechanism of the Brain*, appendix to chapter ix., on the Social Sentiment, which is summarized above.

nent products, such as a hive, a termitary, an ant-hill, a beaver village and the special equipment for the specialized groups or hereditary castes. But man is able to transmit much more. He hands over through group life his approved standards and customs which come to possess as rich a significance in social evolution as does his natural inheritance.

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CHAPTER XVI

SYMBIOSIS, ORGANIC AND ECONOMIC

Parasitism, Biological and Economic.

The economic organization and evolution of social animals throws light also on the genesis and development of pathological conditions which now seem more general in human than in insect and animal communities. A disturbance of the bio-economic equilibrium has led to the abnormal phenomena of parasitism both in the biological and in the economic domain. Familiar instances in economic evolution are absentee landlordism, slavery, exploitation, rack-renting, and the like, where we find an abnormal situation produced by an illegitimate relation between production and consumption, causing not only under-nutrition, but also simultaneous redundancy of inferior organisms. More significant instances of the parasitic diathesis are found in trusts and combines, and here the illegitimate feeding habit is certainly a potent factor in determining not merely its monstrous growth, but also its characteristically high reproductive capacity—the tendency to multiply by fresh combination and union. A precocious maturity or monstrosity, a kind of giant disease, is also exhibited in the phenomena of development of the octopus city, *la ville tentaculaire*, which disturbs the normal equilibrium of food supply and consumption between the rural district and the urban congregation. To provide some more examples: an effete and intemperate landed aristocracy which neglects its social duties may be comparable to the ants, for example, which may become so “drunk” with the exudations of some of their commensals that they even suffer their own offspring to be preyed upon and decimated by their “domesticated

slaves". On the other hand, we know that the domestication of the animal retards its progressive evolution and is often fraught with undesirable reactions upon man. Slavery in its different degrees and methods is very similar in its ill effects to domestication. In the modern wages system, as in domestication, there is an actual gain of valuable factors compensating to some extent for the losses in other directions, but its serious degrading effects must be recognized. Again, we have instances of parasites frequently abetting one another and producing a "vicious circle". When plants have drifted into pathogenesis they not only show profuse expenditure but also are apt to convey disease to animals and men. In the tapeworms we find entire disappearance of the alimentary, nervous and locomotory systems due to their parasitism, and also to the availability of ready-made digested food; they multiply at an enormous rate, and are readily distributed through the medium of another host, which generally forms an article of food for the principal host. This enables them to continue indefinitely the cycle of their life-history, by which they spread disease all round. We may recall in this connection that diseases are commonly spread by means of contaminated food among both animals and men, and, in particular, that animal food is more often responsible for such infection. Our food plants are not attacked by any micro-organism pathogenic to man or other animals, but our animal slaves generally suffer from diseases communicable to man. Facts such as these go a long way to prove that nature abhors any prolonged one-sided exploitation of organism by organism, as in domestication, in parasitism and in merely seasonal symbiosis: for instance, urban as well as feudal aristocracies, burgher classes as well as noble castes, similarly spread social disease and themselves disappear in gulfs of mental and physical degeneracy. The links in the chain of intemperance, poverty, degeneracy and parasitism can hardly be singled out.

Symbiosis.

On the other hand, the extent and significance of symbiosis are matters of no little evolutionary interest. The original

and correct sense of symbiosis is "the living together of dissimilar organisms", as pointed out by McDougall, for there is no other term of so broad and general a nature. McDougall gives the following primary divisions of symbiosis: (1) Disjunctive, (2) conjunctive, each in turn being sub-divided into social and nutritive; each type of nutritive symbiosis may be further subdivided into antagonistic and reciprocal. Plant communities illustrate social disjunctive symbiosis; lianas and epiphytes illustrate social conjunctive symbiosis. Antagonistic disjunctive symbiosis is illustrated by herbivores and plants; antagonistic conjunctive symbiosis is illustrated by the ordinary cases of parasitism, such as plant diseases, ectotrophic mycorrhizas, etc. Reciprocal disjunctive symbiosis is illustrated by flowers and pollinating insects, reciprocal conjunctive symbiosis by cases of reciprocal parasitism, such as are seen in lichens' root tubercles and endotrophic mycorrhizas. McDougall condemns the curious view of some botanists that lichens are simply fungi. He asserts that it is just as absurd to call a fungus-alga combination a fungus as it would be to apply the term fungus to the mycorrhizal combination of roots and fungi¹.

Community Life of Plants and Man.

In the forest the dominant plants of a community have very important symbiotic relations with all members of the community through the direct and indirect control of light, space relations, water supply and, to a certain extent, available food materials. From this point of view McDougall compares a plant community with a human community under the following heads: (1) In a human community man is the dominant species. As the dominant species he controls the environment to such an extent as to determine what other species may live in the community. Some of the other species usually found in a human community are the horse, dog, cat, mouse, fly, etc. Some of these are not present because man wants them to be, but because man is present and is controlling the environment

¹ H. C. Cowles's summary of McDougall's article on "The Classification of Symbiotic Phenomena," *Plant World*, 1918.

in a way that makes it possible for the other species to live in the community. These facts are just as true of the plant community. The presence of some of the species is distinctly advantageous to the dominant plants, while that of others is just as distinctly disadvantageous; as, for example, the parasitic fungi, but they are all present because the dominant plants have made it possible by their control of the environment. (2) In the human community we find a well-marked division of labour among the individuals of the dominant species: some are engaged in supplying food, others in supplying clothes or fuel, others in administering the laws, etc. In the plant community we find a somewhat comparable division of labour among the various species of the community, but not among the individuals of the dominant species. The function in the community of all members of the same species is the same, but some species have the function of manufacturing food, some of supplying a ground cover to check evaporation from the soil, some to act as scavengers in getting rid of dead bodies, etc. (3) Another important difference between the human community and the plant community should be kept in mind. In the human community there are ordinarily more or less definitely organized activities carried on for the good of the community as a whole. On the other hand, in the plant community there is no altruism. It is a case of every plant for itself. The activities of certain species do result advantageously for the community as a whole, but this is due to chance circumstances, and the activities of course would be carried on just as vigorously if they were resulting in harm to the community. This fundamental difference between the two communities, however, is the natural result of the presence of consciousness in the human species and the lack of it in plants, and as soon as we leave that fact out of consideration the two types of communities become strikingly similar¹. Zoologists now treat commensalism, parasitism and symbiosis successively as related phenomena. The delicate adjustments that enable yeasts to interpenetrate the tissues of insects, algæ those of corals, and

¹ *Botanical Gazette*, March, 1922.

bacteria those of cuttle fish, resulting in mutual advantages to both partners, illustrate the importance of symbiosis. The facts of biology, imperfectly known as they are and still more imperfectly apprehended in their full significance, show that the more carefully animal life is studied, the more numerous and intimate are the cases of symbiosis that investigation discloses. Many of the bloodsucking flies, probably all, are cases of symbiosis. The whole vast order of sucking insects known as *hemiptera*—including the green fly, scale insect, body louse, etc.—is another. The ant and the death-watch beetle, the cockroach and the leaf-miner, are examples of other orders that show the same or similar associations. The subject assumes practical and economic value when it is realized that the nutrition of our domestic ruminant animals is carried out not solely by their own enzymes and tissues, but is due partially to the activity of symbiotic bacteria (and probably to protozoa also) which live within the cattle. The importance is recognized of the large number of cases recently described where unicellular symbiotes are found in different invertebrate groups, and of the extraordinary extension of research on these lines by Pierantoni and Potier. The claim of the latter that every living cell contains symbiotic organisms was seriously considered and rejected by a committee of French biologists, but interest in research on symbiosis is still intense in France¹. Reinheimer's advocacy of symbiosis, in his extended sense of the word, is well known. His main contention is that integration in bionomic relatedness is essential to the good of all concerned in the intricate web of life. Life as a whole is an integrated symbiotic whole, and if we be "sharers in a wholesome pan-psychism" we may partly seek and find in the very foundations of organic evolution the foundations also of the integration of the unconscious, neither identifying the psychical with the physiological, nor accepting the mythological views of Maeterlinck and Samuel Butler (which are considered and criticized by Reinheimer) but regarding them as distinct, though in some way deeply

¹ "Studies in Symbiosis," "Parasitism and Symbiosis," *Nature*, April 29 and May 20, 1922.

and closely interrelated. Reinheimer, indeed, suggests that the physical and mental work together in internal or domestic symbiosis. Thus he finds the foundations of duty laid in that integrated biological reciprocity to which he extends the concept of symbiosis ¹.

Biological Mutuality.

Bacteria-like organisms derived their energy and nutrition from inorganic compounds and prepared both the earth and ocean for the habitation of plants and animals. In the plant and animal world the true secret is the inevitable triumph of those animal and vegetable allies which are mutually helpful to one another. "It is recognized that the status of a plant in the evolutionary scale is in accordance with its output of useful substances; but we must likewise recognize that the status of the animal is commensurate with its capacity of service to the plant. More than one writer on evolution has asserted symbiotic adaptation to culminate with insect and bird. But mammalian services to and alliances with the plant are numerous and important, whilst special significance attaches itself to the fact of the continuity of the symbiotic relation throughout evolution." The animal is sustained by food which plants produce in excess of their own requirements, and in almost all cases the animal also destroys insects, etc., which are injurious to the plants. The result is that the allies prosper side by side; while carnivorous animals, which live by destruction, are always making their environment worse for themselves and inevitably tend towards extinction. Darwin showed that diversification is a useful alternative to close competition, that the greatest amount of life can be supported by great diversification of structure, and he indicated that a carnivorous quadruped may become more successful by becoming less carnivorous. Food supplied under symbiosis represents an economic margin produced much in the same way as division of labour produces a constant surplus. The biological is inseparable from the sociological interpre-

¹ Review, in *Nature*, March 10, 1921, of Reinheimer's *Symbiosis: A Socio-physiological Study of Evolution*.

tation. The very limitation of symbiotic organisms and especially their indispensable discrimination as regards food, in the end make for psychical progress. Gregariousness requires kinds of food and supplies of food that permit association¹. The symbiotic relation with its needs of industrious habits rivets the attention of the mind upon reciprocal activities and furnishes the best physiological and sociological groundwork for psychical progress. In the normal growth of biological mutuality a kind of collective usefulness has become operative. The ensemble of plants acts as a useful and indispensable complement of the ensemble of animals, and *vice versa*. We have referred already to the high development of nervous organization among honey-bees and ants, which has shown the possibility of a perfect communal life, and which has stood as an important aid for its survival. Even in the evolution of arboreal man we see the difference of soft or hard feeding, which are so important in biological adaptation and evolution, associated with the vitally important difference of service. In symbiosis the temperate habits working in harmony with the food-producing plants, have achieved an ideal adaptive specialization. The biological significance of the virtue of symbiotic cross-feeding is further evident from the recent discovery of such important agents as the body-defending phagocytes, of the agriculture-sustaining, nitrifying bacteria, of the disinfectant micro-organisms, all antithetic in action to the pathogenic organisms, etc. The recognition that service and progress through symbiosis has been one of the chief aims of nature is new, but its significance for the interpretation of social life, can hardly be exaggerated².

Perverted Diathesis, Biological and Economic.

Reinheimer has adduced instances where the absence of the normal biological relation of work and service have created social structure and organisms derogatory to community of

¹ Compare Nicolai: *The Biology of War*.

² Reinheimer's studies are of far-reaching importance, but neither economist nor naturalist hitherto has been able to provide an outline, in the words of Professor Geddes, of symbiosis, organic and social.

strenuous life, which have given birth to the phenomena of struggle and exploitation on the one hand, and of over-feeding and monstrosity on the other. The whole industrial world, indeed, is replete with phenomena of such perverted diathesis which, in the biological world, results in gradual loss of wholesome diversification and in increase of size on the lines of accretion rather than that of bio-economic utility and qualitative growth. Not a healthy diversification and integration of functions between agriculture and industry, between labour and capital, between intelligence and manual labour, or between production and art characterizes modern economic evolution ; but an ever-increasing division and subdivision of functions leading to abnormal growths by mere multiplication and accretion of parts. This would throw a new light, not merely on the study of business organization and management, but also on the recent schemes of the group organization of industry, some of which, as socialism and syndicalism, show a tendency to disharmonious development on the one hand, or a break-up of the unity of human association, as in anarchism and direct action, on the other. All these arise to correct the inevitable degeneration of the huge and unwieldy organizations of centralized State and industry. Indeed, it cannot be gainsaid that the excessive growth of State power and responsibility itself is due to surfeit and abnormal metabolism in the past, causing loss of symmetry in the body-politic. As these biological concepts help us to understand more adequately some of the recent practical problems of economic morphogeny, the concepts of bio-energies, such as those of cross-feeding, will help us in interpreting cost and value, labour and population. The economic balance of life is maintained by work which produces a maximum of organic as well as bio-economic utilities for the benefit of the entire organic world with a minimum of organic cost. Work is a biological imperative ; it is work which prevents undue competition and ensures mutual evolution among organisms. Every organism, accordingly, can improve indefinitely by complying with the biological claim for mutual service. Thus, if animals and plants are diversified for different habits of life, a greater number

of organisms can thereby support themselves. So long as the nutritional habit is normal, it remains consonant with any kind of reproduction ; the organism which does not rely upon depredation and abnormal habits secures the beneficial effects of favourable correlated circumstances generally and raises the level of existence. This subordinates the law of population to the principles of quality and excellence, and raises the population problem from a mere mechanical to an ethical plane. There is an uplift of the qualitative plane of consumption, and at the same time an improvement of the plane of production, so that the population process rises to ever-ascending heights in the course of the spiral of progress. Similarly, the phenomena of capitalism may be interpreted in the light of the long-enduring gestation of nature, which alone can provide the essential capacities of work and the supplies of energy available for exchange between species and larger groups. If the normal economic and physiological equilibrium, derived from the cross-feeding, toleration and mutual aid arrangement, is destroyed, degeneration occurs. Large aggregations of capital are due to a removal of a wholesome bio-economic embargo on the increase of size and numbers brought about by modern industrial conditions which have destroyed the old diffusion of capital and capacity. Depredation and surfeit, moreover, have led to the emergence of a submerged proletariat rendered somewhat morbid and shrinking by domestication, which is often a too one-sided exploitation and an equivalent to a divorce of the exploited organism from its true symbiotic bond in nature. A systematic theory of symbiosis, organic and economic, indeed, would throw a new light on many economic laws and concepts ; but economics at present refuses to apply the method of biology because of its belief in the all-sufficiency of struggle.

Contributions of the New Biology to Economic Theory.

The new biology has swept aside this logical basis of economics, and yet economics still clings to its old foundations. We certainly need at present a more accurate conception of

economic origins, a deeper economic vision. Abnormal and pathological conditions arising out of the keen struggle and competition of the industrial revolution in England, perpetuated and emphasized still more by the rivalry of the Western nations, which has converted vast continents into armed camps, have been responsible for the obsession of false biological hypotheses and superficial economic theories. They have warped the development of sound biological and social thinking, and this in an age when the thought of Lamarck, Kropotkin, Geddes, and Bergson is still living. More firmly than ever should we adhere to the broader and synthetic view that the genesis of all-important elements in human nature and evolution are to be found below the human line in the life series. To understand diseases or disharmonies, for instance, in human societies, we ought to see their beginnings in animals and in plants, in all life; for the one great lesson that biology has taught the modern mind is the principle of continuity. Disease is rare in the system of wild nature, and man should recognize that economic disease also is the occurrence of an abnormal metabolism which nature makes short work of. Parasitism similarly is the result of abnormal feeding habits. The degeneration of the parasite corresponds to the degree of parasitism; indeed, its very repulsiveness is the brand of degeneracy. Parasitism arises when an organism evades the struggle for existence by becoming predatory, but it does not know the dangerous part it selects. Man knows that the life history of parasites not only is full of risks, but also is the history of malformation and retrogression, and he should take warning therefrom for his own evolution. But more significant than organic disease and parasitism for the interpretation of man's genesis and development is symbiosis, the tendency in animate nature to establish interrelation between organisms, to link lives together in reciprocal service and adaptation. This has evolved from the very dawn of organic life and has become of the highest importance in the process of social selection and evolution. Social progress, including economic progress, must be interpreted as part of the complex interwoven growth of biological mutuality which continuously has evolved reciprocal service

to the uplift of the entire biotic community. This will be the implication of "that refined and intimate associateship between living energetics and inanimate forces of which biology is only beginning to form a conception."¹ If congenial and stimulating rather than rigorous and oppressive inorganic conditions actually have been associated with organic progress, and this in turn has been characterized increasingly by interdependence rather than by incompatibility; if, furthermore, support, mutual or one-sided, compared with attack or conflict, usually means more wholesome activity and also, so far as it has a directly productive quality, results in greater abundance: such facts appear to substantiate the view of organic development as attributable to the kindlier rather than the harsher influences of nature and society. The same argument may be applied with the necessary alteration to stationary and to retrograde races, retrogression being attributable mainly to insufficient or unsuitable feeding or functioning, and resulting sometimes in withdrawal to a different and inferior but more tolerable habitat. Moreover, as a rule, the organically stationary races have been locally stationary also; it is the inwardly changing races, whether in ascent or decline, that have moved outwardly—the one kind into more rigorous but uplifting, the other into easier but debasing surroundings. There is also progressive adaptation, external and internal. New types search out suitable surroundings, while between variation and environment there is reciprocal selection with consequently increasing mutual adaptation. Again, racial habits directly adapt the environment, either enduringly or with modification constantly renewed. It is thus that progressive variation operates, far less by giving its possessors an advantage in the struggle for existence than by enabling them to migrate into areas more exacting, perhaps, but also more favourable to well-endowed and progressive races; while progressive change in the environment increases and diversifies opportunities and so, in relation to advancing races, not only helps to perpetuate progressive organic change, but also moderates competition; retrograde change, on the other hand, curtails

¹ Gamble: *The Animal World*, p. 142.

opportunities and so hinders differentiation and advance and intensifies competition. It is amidst retrograde conditions that there is great severity of competition, modifying the incidence of selection largely on ineffective lines¹. The recognition of the paramount importance of symbiosis as stimulating progressive evolution, indeed, is the first indispensable step in evolutionary economics.

Economic Evolution at Work.

Economic evolution no doubt presents shadows. There are often imperfect adaptations. There is over-specialization, as result of which economic organism or structure, in spite of wonderful achievements, dies for lack of power to adapt itself to novel conditions. Economic evolution itself is brought about by changes in industrial methods, in transport and means of communication, and these involve some suffering and many a domestic tragedy. There is, again, economic parasitism accompanied by much callousness. There is much of elbowing and jostling. There is an abundance of inferior, feeble-bodied, feeble-minded creatures. In animal evolution, the prolific reproduction of humble organisms affords a certain security as regards the means of subsistence, which is a condition of economizing reproductivity in higher animals². But the growth of human personality does not correspond with the prolific multiplication of the submerged proletariat. There is sometimes also the astonishing spectacle of masterpieces of economic evolution fighting one another to the death. Yet, in spite of all these darker features, the adaptations, the inventions, the interdependence and the reciprocal service in economic life, and the wealth, the comfort and the note of gentleness and mutual trust in economic relations, make the shadows shrink, and compel us to realize more deeply that we are to mould our economic destiny in higher terms of organic service and well-being.

¹ P. J. Hughesdon : " Spencer, Darwin and the Evolution Hypothesis," *The Sociological Review*, January, 1925, which is an able restatement of the evolutionist attitude in sociology.

² Thomson : *The System of Animate Nature*.

Man, Controller of His Own Evolution.

To grasp economic principles we must thus start from the platform of Natural Science. But, in respect of a plan or system, Evolutionary Economics is still without even a sketch, almost without a thought. Again, deductions from a mistaken interpretation of the facts in organic evolution have been responsible for much unsound economics. A careless Darwinism has been invoked to give nature's sanction at one time to unregulated industrial competition, at another to an aggressive commercialism, even to the exploitation of immature and undeveloped races, stimulated by an overweening race arrogance and the lust for mastery. And thus the work of economic and hygienic reform, of practical eugenics, of international exchange of material and social values which the acceptance of sound biology stimulates, has been impeded. Yet through all this there is going on in human life a silent, relentless process of the selection of normal and biologically righteous or co-operative social actions and institutions and the elimination of the abnormal and the unrighteous—a process accompanied by inarticulate and yet much real suffering. If this civilization is in its nature and essence scientific, not only will its problems be solved, but also its destiny will be consciously evolved by the methods of natural science. It is the prerogative of man to understand and then consciously control his evolution according to an ideal. He alone can know the penalty of biological aberration or the reward of biological duty; he thus can eliminate the suffering and speed up the process of organic evolution, bringing up the stragglers or those who are the unfortunate victims of an inexorable heredity. Neither in the will to live, nor in the will to power, but in the will to believe in the steady and purposive evolution of humanity towards an as yet unrealized goal, man finds the inspiration for his social aspirations. Realizing with greater zest the *elan vital*, he will advance in a common onward march to an ideal perfection which is the glorious vision of religion and science alike.

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CHAPTER XVII

THE NEW ALLIES OF ECONOMICS

Progress in Economics.

The above study has shown that economics has to bring itself into line with the more comprehensive theory of social progress envisaged by the various basal and borderland sciences. The process, indeed, has begun. Already the inadequacy of traditional theory has led to new lines of enquiry and effort, suggesting in their turn several independent and fruitful currents of economic interpretation. These are bringing to light many contradictions and inconsistencies which will have to be reconciled in a larger view of economic life and organization, the outcome at once of a biological treatment of human behaviour and a more intimate correlation of social studies. But this can emerge only if social science does not contest the way with other sciences that are undermining vested opinions and beliefs, but generously looks forward towards the great co-operation of modern intellectual advancement which Comte discerned and contended for.

Comte's Order of Sciences Modernized.

It was Comte's wide and penetrative vision which realized that the "abstract" or basal sciences are at once the outcome of the social process itself and furnish that extensive knowledge of particulars on which the development of general sociology and specific social sciences depends. We now are renewing the unification or synthesis of complementary disciplines, but with greater clearness and concreteness of outlook, which is at once physical and biological, geographic and psychic. We are considering the social sciences as resting on psychology, psycho-

logy on biology, biology on chemistry, etc. The progress in knowledge has necessitated, as Giddings points out, a revision of the order that Comte set down as well as new designations. The full series as it now stands is : mechanics, electro-physics and electro-chemistry, chemistry, thermo-dynamics, astronomy, and geology (these two being complexes of the preceding four), biology, psychology, anthropology, ethnology, archæology, history and sociology. The physicist to-day has brought to light facts which go far to prove the inseparability, the oneness, the continuity of matter ; and both biology and psychology, the immediate bases of the social sciences, now draw inspiration from the recent conquests of physical science. Thus arises the importance of a science, called bio-physics by Pearson, which attempts to link the physical and biological sciences together, and has far-reaching significance for the physio-psychological interpretation of man's consciousness and sociability, which are regarded as the continuation of physico-chemical reaction of lower organisms.

Concrete Foundations of Abstract Sciences.

Psychology now is treated as resting fundamentally on bio-chemical foundations. Thus the products of the nervous system, whose function is to secure the individual's adjusting or biologic capacity to react, are regarded as belonging to the same series as tropisms and reflexes. Intelligent reactions and biologic reflexes belong to the same genus ; and some day we may be able to measure the physical and chemical forces which are transformed into intellectual and emotional reactions. This finally will establish for economics a calculus of values resting on the sure and scientific foundations of the principle of the conservation of energy, which can be verified in all physical phenomena thus far known to us, and may be affirmed from the knowledge thus far acquired to be similarly applicable to vital phenomena. Already advances in the science of human calorimetry furnish important clues to the laws of diet, industrial efficiency and general hygiene based on the study of the transformation of energy accompanying muscular work as measured by dynamic tests. The development of the

science of bio-energetics, comprehending within its scope the study of cerebral nerve-cell excitation changes that are associated with consciousness, will complete, it is hoped, the correspondence in treatment of physical and psychical energy and correlate biologic and psychic values, the gulf between which at present is the greatest obstacle to the development of the social sciences, and of economics in particular. A neurobiological treatment of personality, beginning with the series of adjustments wherefrom springs a combination of sensations, impulses, ideas and habits which constitutes the "self" to adjustments in the higher planes of conscious adaptation, is just beginning. Thus from physics, chemistry and biology we ascend, comprehending all these together, towards economics, sociology and ethics, truly abstract, because thus substantially and connectedly concrete.

Psychological Foundations for Economics.

We have seen that the more recent developments in psychology which have been in close association with developments in physiology and in biology are profoundly affecting the analysis of man's conduct and that of his fellows. For example, the new psychology suggests for economics an objective interpretation of value hitherto treated all too abstractly. Instincts now appear as economic incentives and their *rôle* in the evolution of traditions, customs and beliefs, which remake man and reevaluate his values, is receiving increasing recognition. Out of the complex data of instincts in action, customs and beliefs selected by the elimination of undesirable responses and by conscious choice which modifies the responses towards rationality, social behaviourism ultimately will furnish economics with distinguishable norms of human behaviour. These will satisfy the test of objective measurement and will supply standards of comparison more scientific than the unknown and uncertain human quantities into which utility and cost have been resolved by economics. At the same time, behaviourism shows the importance of many other original impulses which under particular circumstances operate as economic forces. The determination of their relative strength

in recognizable measures opens up a new line of investigation to which the different sciences on the borderland must contribute. But this is necessary to make the abstract equations of demand and supply vital and fruitful and will lead economic theory out of the blind alley into which it has strayed. The work of Woodworth, Watson, Thorndike, Parmelee and others in analysing man's original nature and the common modes of individual behaviour is already contributing indirectly to build the scientific psychological foundations of economics. Parker, Mitchell, J. M. Clark, Tead and others have given already a sharply-focussed view of the operations of instinctive and impulsive forces in economic life, though they have not pursued their analysis deeply enough to supplant the psychological premises of orthodox economic theory.

Welfare Conception of Economics.

Moreover, functional psychology is emphasizing certain demands of human nature which make untenable the treatment of price-economics as separate from welfare-economics. Patten, Fetter, Veblen, and J. A. Hobson in particular have brought forcibly the welfare standpoint into economics and helped us to go directly to the whole problem of industrial ideals which economics is after all under obligation to understand. Especially significant in this connection is the psychology of the unconscious, which reveals how in the present economic situation there is at work the disruptive force of emotions and interests not finding legitimate expression or satisfaction. Indeed, the adequate analysis and effective control of the pathological or near-pathological groups is now found to be an integral part of scientific economic thinking. We thus work hand in hand with Freud and his school, Jung, Rivers, etc., though, of course, with a new social emphasis, thus supplementing their treatment, which deals mainly with the individual psychoses, by a study of the social situation and the factors of race and culture heritage in the analysis of neuroses. The psychic distresses of the economic order are seen from the physiological and psychological standpoint as part of the wider problem of man's adaptation to the economic environment.

Here, again, the economic system, which is in reality a system of repression of natural instincts, manifests an analogue to the evolution of social life among insects and animals which sometimes brings about social control and adaptation by heedless inhibition and ultimately physiological eradication of the powerful life impulses which cause individuation and operate against social harmony. We thus come back to the platform of natural science for a purposive direction of economic endeavour through a multiplicity of social groups, responsive to the inspiration of constructive ideals, by a due regulation of the primary emotions of love and sacrifice, sociability and co-operation. This implies a renovation of the affective side of man's nature, hitherto starved by an economic system which disintegrates personality by repression. The disintegration of personality has no cure other than a full, varied and spontaneous expression in a healthy normal psyche which affirms and expands the energy of life. As a recent writer on the new psychology observes: "Just as the alchemists in the early days of science thought that they could transmute the baser metals into gold, so the philosophers have found that we can change the direction and object of the baser desires into higher ones having in them more gold¹—that is, more value—for the modern development of society."

Need of Institutional Adaptation.

Besides the human adaptation to the economic environment by a balance between expression and repression or selection of instinctive tendencies, there is, as is increasingly recognized, the need of an institutional adaptation. For the changes which industrial development has effected in the institutions of mankind have not been wholly beneficial to the trend of the race. What Galton strove against, and Nordau and Carpenter lamented, is now brought home to modern society by the experimental results and observations of Karl Pearson, Saleeby, Davenport, Newsholme and others. The studies of crime and delinquency, pauperism and vagrancy, mental defects and disease in relation to environmental conditions by the

¹ W. Lay : *Man's Unconscious Conflict*.

psychiatrists have shown the factors that undermine the biological foundations of civilization, and strengthened the modern resolve to improve the social environment and at the same time to maintain a high standard of racial efficiency which is endangered by modern industrial conditions. Social defeats and disasters, poverty, crime, insanity and other distressing social phenomena bring to the fore the dangers of institutional maladjustment, while the dangers of excessive urbanization, of high pressure and standard of living or, again, of occupational selection or the differential death-rate among the employees of various industries, all point towards the need of a eugenic policy, which in the long run will prove economically valuable.

Humanization of Economics Inevitable.

These and other facts are now yielding themselves to statistical observation and verification, and there is now a growing body of scientific literature which demonstrates with clearness the relations of social habit among different classes to conditions of health and progress. The emergence of the concrete, biological point of view is thus bringing about a solidarity of the problems of society and a re-orientation of economics with other social sciences ; and, though economic or social pathology has initiated close co-operation between the economist and sociologist and psychologist, the humanization of economics has been rendered inevitable not only by the sciences of psychoanalysis and psychiatry with their important bearings on a scientific study of economic pathology and the conditions of industrial management, but also by the whole modern pragmatic, anti-intellectualist tendency.

Indeed, we have come to realize the significance of pathological studies all along the organic series, from wasteful use and destruction of the natural store, abnormal metabolism, parasitism and degeneration, to the disintegration of personality and of group life and values. This aspect of economic study has gained added importance from the abnormal conditions arising out of modern social maladjustment. Economics needs Race Biology, Social Pathology, Abnormal Psychology, Social

Psycho-analysis and other similar studies, which are only just emerging. In fact, the stages of progress in that science as contributing towards social practice and control will be found to correspond with the increasing application of the evolutionary method to normal as well as abnormal functionings. This will supplement the purely morphological methods with its implications, extending from individual to social ethics, all so far as possible on a scientific experimental basis.

Biological Prism of Life.

The view of consciousness as the ebb and flow of chemical, vital and mental forces at ascending levels maintaining the balance of the organism in relation to the environment has extended to sociology. Fundamental in biology is the Organism-Function-Environment relation, the three sides of the prism of life. If biology has any contributions to make to sociology it must make them within these three co-ordinates, which become in sociology, Folk, Work, Place; or Famille, Travail, Lieu. Generalizations, criteria and practical reforms that do not clearly appreciate these three aspects, both in their O-f-e, and in their E-f-o order, are fundamentally defective. No kind of morphology can remain isolated from physiology and ecology¹. The environmental stimuli range in character from compulsions, impulsions and constraints to inducements and allurements. To quote Giddings: "Among stimuli that all living bodies react to are phenomena of the surface of the earth, including its life-sustaining resources, and of the atmosphere, including variation of temperature and of precipitation. All these are unevenly distributed. Geography is a variegated thing. There are regions that forbid, repel, starve and kill, and there are regions that nourish and attract. Therefore, the teeming life of the earth is apportioned and segregated, here in energetic aggregations, there in sporadic, ineffective examples according to the regional dispersion of environmental bounty and exaction, incitement and constraint."

¹ This analysis has been developed elaborately by Geddes and Thomson.

Importance of Temperature.

Huntington has shown that the law of optimum temperature apparently controls the phenomena of life from the lowest activity of protoplasm to the highest activities of the human intellect. A slight rise in temperature seems to be favourable, but beyond that the favourable effects of increased heat, which are strong in cold weather, are neutralized by the unfavourable effects in warm weather. The measurement of peoples' actual achievements under various climatic conditions has led to the conclusion that variations of temperature from day to day are much more important than has been realized. Therefore, in the same latitude the stimulating effect of the climate may vary greatly. "The civilization of the world varies almost precisely as we should expect if human energy were one of the essential conditions, and if energy were in large measure dependent upon climate."¹ Apart from climatic advantages or handicaps with which economic efficiency, industry, thrift and even great moral issues are bound up, the raw materials of production with the physical conditions surrounding them stand out in relief as the occasions for building up newer reaction systems and for bringing them into operation.

Region as Mould of Peoples.

Peoples are stimulated and moulded by the region through the character of their occupations and the technique of the civilizations they create. Thus develops a regional and concrete human interest in economics which now obtains considerable support from geography, physical and human, and from social anthropology; the descriptive social sciences enter into our views of economic life and institutions, giving us the completed picture of man's entire organic and social composition in varying environments.

On the physical side region—*i.e.*, climate, temperature, soil, topography, etc.—acts directly and indirectly, especially on the internal secretions which affect the functions of the emotions. It thus develops a concrete and distinctive social mind. To

¹ *Climate and Civilization*, p. 219.

understand characteristic forms of social behaviour of different peoples, we should thus think of social tropisms, reflexes and instincts due to similar stimuli, similar responses of individuals of the same ethnic stock inhabiting a given region. There is also secondary stimulation of social behaviour through the character of predominant occupations, the kind and amount of food supplies, the form of property, the composition of the populations, etc., which are governed by regional influences and which in their turn limit and determine the possibilities of further psychological reactions. These distinctive environmental reactions become crystallized into custom and habit, and moulds of individual reactions. They form the social environing mind of a commonly experienced situation which governs and directs individual mind and reason and defines and unifies a group.

Studies in Regional Economics.

Thus there is an intimate association between the basal subsistence level and the physiological cost of work and the organic demand for energy available from the finished goods in the most varied forms of adaptation. This supplies economics with the key to the problem of exchange value in relation to the supply and demand of goods and labour. The whole problem of efficiency of labour and consumption is to be viewed from a metabolic viewpoint. The racial food peculiarities and habits of consumption, which are adaptations to the climate, also throw important light on the family economy as well as on the systems of production with which dietaries and habits of consumption seem to be correlated in the evolutionary development of economic folk-ways. The scale of consumption is adapted to the geographical environment. The difference in climate affects the nature and quantity of food needed, while the amount of energy expenditure in work also varies with the climate. All this explains differences in diets of different peoples and in their wage levels. In the crowded countries of the East a very limited dietary and low wages, as well as characteristic habits of life and methods of intensive agriculture accompanied by handicraft production, which are

a matter of mutual adaptation of people and region, throw light on the problems of low efficiency in factory production at home and success of agricultural colonization abroad. At this time, when an international bond unites the labour legislation of various countries, the study of regional economics with special reference to the limits of efficiency, the minimum food as well as habits of life and conditions of climate, so far as they furnish comparable bases of the study of labour problems, becomes more necessary than ever. The problems of manufacturing production and other matters are rendered easier of solution by adapting kinds and methods of work not only to seasonal changes but also to variations of temperature from week to week, and this in temperate regions as well as in tropical climates, while the limits and possibilities of acclimatization will throw light on some unsolved questions of the relations between the white, yellow and dark races in different parts of the world. The historical school of economics has not sought much aid as yet from human geography and social anthropology. Economics ought now to include in its survey new fields of economic types and organizations connected with their ethnic variations in the diverse zones of cultural distribution. The emphasis of geographical and sociological factors as entering into economic standards will remedy the present disparity between economic theory and the institutions they seek to interpret, and will ground economic laws on the fundamental principles of geography and psychology in which the conflict of partial economic theories derived from specific social types will find its reconciliation. Studies in the mental characteristics of races from the standpoint of social psychology have been undertaken by Le Bon and others. McDougall recently has attempted to explain cultural characteristics of the Nordic and Mediterranean races. Under the deliberate scrutiny of actual measurements racial differences in mental traits have been observed by Woodworth and Havelock Ellis. The study of racial temperament also has begun. Meanwhile the analysis of geographical and climatic influences, as in the writings of Huntington, following the wake of Buckle, Montesquieu and Ratzel, has been rendered concrete and exact by

statistical observation and verification. There has not been, however, any adequate analysis of the formative forces in social and economic life in different races and climates from this standpoint, though without this an adequate classification of economic types or regions, so essential, as Steinmetz has shown, for the advance of the social sciences, is impossible. Since the climate of many countries seems to be one of the great reasons why industry or idleness, strenuousness or weakness of will prevails, so the different crops and natural resources and the technological apparatus and the processes developed in the courses of their transformation directly and indirectly influence mental and social evolution, creating and limiting the varied possibilities of well-being and of economic development.

Secondly, regional influences evoke a similarity of responses, habits and feelings which are spread and strengthened by inter-stimulation, herd-reaction and gregariousness securing the adaptations of the particular society to the environmental and genetic conditions. Instincts and habits fit the individual to the particular physical and social *milieu*; feeling and intelligence supervene, and thus social habits, customs, institutions, standards, reflected upon by the herd, differentiate themselves as the social inheritance of a particular people, not less important for social life than the geographic environment. These are acquired, as are other habits, through reciprocal intercourse and repeated practice. Beginning with the original equipment of instincts and feeling which secure man's adaptations in his early stages of evolution, there is a super-imposition, layer upon layer, of the intellectual elements compounded of the raw material of instinct, habit and feeling, beliefs, standards or ideals, spread by "suggestion" (Sidis), "imitation" (Tarde), and "gregariousness" (Tarde), all of which preserve a cultural continuity which itself is a means of social survival and progress.

Regional Behaviourism.

From the standpoint of psychology as the science of definite organismic reactions we expect of the peoples of the different

cultural levels only such reactions as they have had an opportunity to build up in the specific surroundings in which they find themselves¹. But the common belief is that the human mind is a permanent essence which is perfected in the individual of European culture whose mind must be considered as the standard by which to judge the minds of other peoples. According to an organismic psychology it is unscientific to think of the minds, morals and institutions of men in different cultures as representing stages in the development towards the unique and exalted conditions in life and thought of European individuals. Again, social behaviourism must recognize the rôle of deliberation and criticism which lead to the transmutation of instinctive tendencies, feelings and habits into ideals or values. This will correct the anti-intellectualism recently current in social psychology. Social values and cultural standards which show the way in which man's original nature is altered by use, and the common modes of individual and social behaviour that result, become the common heritage of each society, as it were, and acquire a survival value of their own over and above a people's original equipment in instincts and impulses. Thus the new psychological conception reveals differences in the mental capacities of the various human races, as well as in social and economic types due entirely to the development of different reaction systems by members of these races in different environmental and genetic conditions. This idea has been developed more systematically in another work, *Regional Sociology*, which has close affinity to the present book, although it takes up only one among the diverse threads of recent thought about social behaviour and institutions. Attention must be drawn here to the line of social investigation undertaken by the school of Le Play. By laying stress upon the natural groupings in a certain geographical area and the different fundamental occupations which govern family types and social, religious or educational institutions as orderly organic developments, Le Play discovered the real living nuclei of the social organism. His prime contribution was

¹ See Kantor: "An Essay towards Institutional Conception of Social Psychology," *The American Journal of Sociology*, May, 1922.

his conception of the Valley Section and his detailed examination of physical and spiritual life of the great rustic types which are developed by the work of the forest, the pasture, the field and the ocean. Such a regional study and survey as Patrick Geddes has been conducting with a more graphic handling and concrete treatment of the inter-relations between Place, Work and Folk, is an attempt to carry further this occupational analysis of *Le Play*. In Geddes we find also a detailed analysis, and a juxtaposition of the formative factors of social life, so invaluable for him not merely in his diagnosis and solution of urban and industrial maladaptations, but also in his task of synthesis, the reconciliation of hitherto aloof schools of thought with a renewed application of sociological method to social life in definite cities and regions.

The analysis of group mind such as we have had from Durkheim and recently from Cooley, McDougall, McIver and Miss Follett, reveals a new mode of treatment of social habits and processes, which is leading social science much further than *Le Play* conceived. Inductive studies in the psychological conditions of industry and profession as seen, for instance, in certain new regional and industrial surveys and monographs, are also showing that psychological factors more than environmental conditions dominate the interplay of folk and region. The reciprocity of reaction between social stimuli and individual responses is now sufficiently recognized by modern writers on social psychology, who show that regional peculiarities are themselves remoulded by individuals acting in groups. The region is thus seen not as a fixed stock of social habits and traditions, but a perennial flow of social life processes, with ever-recurring eddies of group formations. The local and the parochial thus can pass easily into the non-local and the universal, and there develops a hierarchy of values in the interfusion of which lies the reconciliation of the conflicting claims of rival types of group organization.

New Legal Basis.

The conceptions of social interdependence and solidarity which alone can reconcile the conflicting interests and claims

of groups recently have found expression in the new jural principles enunciated by Duguit, Roscoe Pound, and others. And, indeed, it is now emphasized by this school of French and American jurists that unless the present basis of law is grounded upon social justice and solidarity instead of upon the inviolability of private rights and individual contract, law will remain divorced from the social conscience.

New Sciences of the Group.

The new jurisprudence, politics, ethics and psychology alike have laid stress upon the creative activity of the group. It is the group which recreates man and remoulds his interests and values. It is the group which gives rise in the economic field to class standards of consumption, different kinds of occupational psychology, different species of nervous fatigue and occupation neuroses begotten by different forms of industrial vocation, etc., with reactions from these into different schools of viewpoint and thought in economic distribution. Thus the group organization of life and scheme of satisfactions comes to dominate more and more the theories of production, consumption and distribution. The new schemes of economic reform also are yielding to the analysis of group wishes and suppressions which furnishes valuable suggestions showing how repressed desires now working along dangerous paths in society can be disciplined or diverted into useful channels of social integration. An attempt in this direction is being made by Kolnai and others, who are discovering the hidden psychical springs of recent revolutionary outbursts. To some psycho-analysts, who cannot avoid the temptation to regard all social activity as the functioning of a great unconscious, these are instances of either reversion or repression. Indeed, the two interpretations seem now to owe their allegiance respectively to the bourgeois and the proletariat attitudes towards law and order in society. It now appears that group standards to-day often themselves emphasize social neuroses as being the precipitation of pathological conditions arising out of both human and institutional maladaptation, though this has not been realized sufficiently by the psycho-patholo-

gists, who have confined themselves mainly to the individual psyche. A very large part of economic thinking and social programmes are products in reality of the repressions in the home, in the industrial organization and in the community of dynamic unconscious impulses of human nature. A return to work and the joy of work, to sanity and creativeness, to love of nature and man, alone can cure a social neurasthenia, which is now stamped on modern social thought and prevents us from seeing the truth.

Institutional Conception of Values.

There is thus everywhere a yearning for enlightenment and healthy and natural growth. The broader humanism establishes a unity of the concept of value. When the consciousness of economics is fully impregnated with the consciousness of human value, the split between the mechanical and the ideal will be healed. The science will not be concerned with remote and abstract generalities, but with the scrutiny in detail of concrete situations and with intelligent attention and deliberate control for improvement. Thus ends grow, and standards of judgment and ideals are improved. The vexatious opposition between naturalism and humanism disappears when various value-planes are recognized, the physico-chemical in the realm of tropisms or mere instinctive responses, the biological in the realm of progressive adaptation, and the ethical in the realm of group selection and control. The different principles of value show a utilization of the elements in the next lower plane, and in the highest epitomise the whole evolutionary purpose in the upward course of life. The lack of human adaptation to the environment means the conflict of the respective value-planes, while institutional maladjustment signifies nothing more and nothing less than repression and conflict of wishes which seek for satisfaction in groups. Regions or groups are thus values, and their suppression means a partial or complete non-fulfilment of instinctive dispositions, or felt and conscious needs and desires in the formation and evolution of which human geography, ethnology or history takes a concrete part. Such is the institutional conception of

values with its significance for social pathology and therapy. It is social abnormalities which have first furnished the clue to the analysis of social values, even as Freudism, from a key to the problem of pathology, now has become a method of analysis of normal mental states and processes. As Paton observes: "The study of normal development was only undertaken under the compulsorily aroused interest in morbid processes; and research into the nature and origin of pathological phenomena followed because the morbid processes, upon superficial examination, struck the imagination more forcibly than did the normal physiologic reactions of normal growth." This will be more true of the social sciences, where the disintegration of personal values, and of group life and mind, are to-day suggesting new clues to the analysis of normal social processes, though it must be recognized at the same time that society is something more than the functioning of unconscious minds.

Ascent of Values.

In diverse environmental circumstances or social conditions, values become variegated, and they are standardized and crystallized even as groups are. We thus arrive at a pluralistic conception of values, though there is such a thing as eternal value, which makes itself manifest in a variety of forms. This also is a dynamic conception. As values deepen and expand, a larger and larger number of impulses find fulfilment, and group life, which embodies the fusion of these, attains greater stability. It is a sublimation which satisfies the largest group of impulses in a harmonious synthesis, and which is the prerequisite of an elaborate group formation, and of a co-ordination of mutual relations between groups and the psycho-social values these represent. Thus, personality rises to ever-higher levels in an ever-expanding process of the compounding and inter-penetration of values and wish-fulfilling groups by the reciprocal adjustment of individual and institutional environment. With the recognition of the ascent of values as measuring also an uplift of the quality of life, there is more and more a conscious attempt to strike the balance between impulse and

habit with the larger ends or values of group life, which are neither interpreted, as of old, by a bare utilitarianism in terms of conscious conation, nor pursued as mere derivative satisfactions. The nature of ultimate values no longer recedes into the background. On the other hand the philosophy of humanism is rendering impossible in thought the abstraction of economic or any special field of social activity. The ethical revival, as manifest in the writings of Eucken, George Russell, and Dewey, for instance, stands for social solidarity as well as for personal self-realization through the emphasis of the concrete and the particular as realizing spiritual or final values. Life ceases to be a mechanical process of individualistic give and take, obedience and satisfaction. It is ennobled by consciousness of unity with the myriad life of humanity. But the infinite life is revealed to the individual not in such abstractions as the State or Humanity, but in multitudinous groups in which the heart will more easily attain its own infinitude of feeling ¹.

The Final Reconciliation.

The acquisitive and possessive impulses which have been so much exaggerated in the last few decades will be duly limited in vital modes of association, and the separation between intrinsic or final and instrumental or economic ends, which has threatened to corrode social life, will warp no longer the feeling and judgment of peoples. Final or ideal values will be imported into the common daily life of toiling humanity and lend it a grace and dignity born of the consciousness of its place in a long scheme of things. Economic activity will be a means of social service, an opportunity for personal self-realization; it will become a part of daily sacrament. Economic thought and schemes will be inspired by the genius of the race, which will declare to the individual the evolutionary purpose, even as the polity of the hive or nest has been planned for bees and ants; and for every region or group Nature and Man will envisage a distinctive pattern, making manifest in time its

¹ *The Interpreters*, by A. E.

portion of eternal beauty and wisdom. And yet the different economic schemes will attain a unity of character as the creation of one myriad-minded Economist who is endeavouring through the ages in the travails of history towards the cessation in their own way of the eternal disparity between might and right, between property and poverty, between enjoyment and creation. The economy of the earth will thus be transfigured and the economics of peoples related to the economics of humanity.

INDEX

- Ability, natural, neglect of, 221
- Acclimatization, 223, 263
- Achievement *v.* wealth, 71-2
- Acquired characters, 223-4
- Acquisitive instinct, 46-9, 170, 173
- Acquisitive tradition, 52; Western economic reform and, 53
- Adornment or display impulse, 44, 56, 63, 64
- Agriculture, forward policy in, 220; human values of, 114-5; in conflict with urbanism, 114-6; one-crop *v.* rotational, 116
- Altruism, 243
- American herd instinct, 161-2
- Anarchism, Russian, basis of, 52-3
- Anderson's social values, 127-30
- Animals, in alliance with plants, 245-6; lessons in co-operation from, 232-6; social self-subordination of, 73, 230-1
- Anthropology, physical, 228-30; regional, 10; the new, 83-4
- Anti-intellectualism, 158-60; corrective to, 265
- Ants, 48, 73, 221, 225, 233-4, 235, 240-1
- Apperception, laws of, 155
- Art impulse, 44
- Ascetism, degenerate, 67
- Athanaslu, on organic heat production, 204
- Atwater's metabolic balance-sheets, 201-2
- Authority, deference to, 58
- Averages and indexes, limitations of, 118
- Back to the land, 70, 171, 180
- Backward races, control of, 21; interference with, 52
- Bacteria, symbiotic, 244, 246
- Baden-Powell on the Indian village, 52
- Bagehot, 101
- Baldwin, 127; on the social self, 126
- Balkan peasant industries, 82; village communes, 82
- Bax on socialism, 163
- Beavers, 47, 234
- Bees, 40, 46-7, 48, 73, 225, 233
- Behaviourism, 14, 101, 164-5; economic factors and standards of, 143-5, 256; experimental, 16, 103; regional, 264-6; rhythm of, 14
- Bentham, 101, 102, 142
- Berboussou, 186
- Bergson, 159, 249
- Bianchi on chemical changes connected with emotions, 149; on climate and metabolism, 187; on economic evolution, 237-8; on higher emotions and law of pleasure and pain, 150-1; on intelligence and thought, 210-2; on sociality, 236-7
- Binet, 109
- Binet-Simon system, 220
- Bio-energetics, 256
- Biological and eugenic conclusions, 220-2; light on capital and labour, 225-6; mutuality, 245-6; sciences as allies of economics, 222-3; selection, 252
- Biology, 15, 17-9, 31, 32, 218; and the social sciences, 13, 218; organism-function-environment relation in, 260, 266; suggestions from 226-7
- Bionomics, 227-8
- Bio-physics, 255
- Birth-control, 219
- Blood supply and emotion, 151-2
- Bolshevism, basis of, 52-3
- Bolton and Watt, 197
- Boltzmann on the struggle for free energy, 201
- Boucke on marginal economics, 142-3
- Boutmy on racial effects of climate, 186
- Brentano, 102
- Brett on social psychology, 77
- Brotherhood, workingman's, 174-5
- Bucher, K., on the rhythm of the machine, 181-2
- Buckle, 185, 263
- Building trades workers, 45
- Burridge's experiments, 206-8
- Butler, Samuel, 244
- Calorimetry, human, 201-2, 255
- Campbell, Dr. C. Macfie (*see* Mental Disease Levels)
- Capital and labour, biological light on, 225-6, 234-5, 248; in China, 97-8; in Japan, 90, 95-6
- Capital, continuous flow of, 134
- Carlile on Austrian value theory, 141
- Carnot, 197
- Carpenter, Edward, 258

- Carver, on human adaptation, 55
 Cash nexus, 33-4
 Caste, competition restrained by, 91;
 occupation determined by, 90; ties
 of in India, 60
 Chauveau's physiological labour, 203, 204
 Chemical origin of emotions, 149; of
 sleep, 150
 Chestnut-gathering in France, 50
 Children and occupations, 67; deformed
 and abnormal in country schools, 70-1
 China, capital and labour in, 97-8;
 clan ties in, 60-1; guilds and col-
 lective life in, 93-4, 98; village and
 city communal government in, 93
 Choice, conscious, 145, 155
 City environment and morale, 65; and
 physical deterioration, 70-1, 114
 Civilization, new rural-urban economy
 required by, 115; population and,
 220
 Clark, J. M., 257
 Class-conflict no solution, 103-4
 Class-consciousness, sublimation of, 178-9
 Climate and social life, 185-6, 263-4;
 determines diets and wage levels,
 262; importance of, 261; organic
 and psychic effects of, 186-7
 Clothes, importance of, 63, 64
 Cold and mental initiative, 189
 Collecting hobby, 49, 170-1
 Commercial parasitism in the tropics, 116
 Commons, on group equity, 136-7
 Communalism, Eastern, not tribal, 88;
 Eastern, spirit of, 83; industries
 favouring, 50, 51
 Community life of plants and man,
 242-5
 Competition, cut-throat, 171; evolved
 from pugnacity, 80-1; in biology,
 less successful than combination,
 232; in classical economics, 39;
 individual, almost superseded by
 group, 113; racial differences in,
 81; restraint of in India, 90-1
 Competitive régime, evils of, 74-5;
 remedies for, 75
 Comte, 165, 254; his order of sciences
 modernized, 254-5
 Conceptual constructions superseded by
 exact ideas, 11
 Conceptualism, the enemy, 140-1
 Concrete foundations of abstract sciences,
 255-6
 Conditions of life and human evolution,
 250
 Confucius, 60
 Conscious self, in conflict with uncon-
 scious, 26-7; tyranny of, 24
 Consciousness as a function, 209; search
 for physical basis of, 205-9
 Conservation of energy as basis for new
 calculus of values, 255; in economic
 life, 212-5; in the living organism,
 201-2
 Consumption, economic, as nutrition,
 214; recoupment and uplift in, 216
 Continuity and the frontiers of science,
 13
 Cooley, 127, 266; on imitation based
 on inequality, 163-4
 Co-operation, evolution by, 232; in
 Japan, 95, 96; in Slavonic lands, 81;
 lessons in, from animal life, 232-6
 Co-operative and non-co-operative in-
 dustries, 50-1
 Country, man's natural environment, 70,
 114
 Curiosity, instinct of, 59
 Darkness and light, 187
 Darwin and Malthus, 218, 230; and
 nutrition, 228; on diversifications,
 245; on emotional production of
 nervous energy, 205-6
 Darwinism, 33, 122, 230; careless, 33,
 230-1, 252; new, 231-2
 Davenport, 258
 Defective stocks, 221
 Delaroché, 186
 Demand and supply, 15
 Demand, modern views on, 105-6, 130
 Desirability, 199
 Desires, transmutation of, 258
 Determinism, economic, 18
 Dewey, 270
 Dietetics, 223
 Dietzal, 125
 Disease, biological conception of, 17
 Disgust, a co-ordinating instinct, 57
 Distribution, cry for justice in, 175;
 modern, violates biological law, 221;
 psychology and, 113; true theory of,
 134
 Division of labour and solidarity, 164;
 between man and woman, 229
 Domestication, 241
 Downey on temperament, 80
 Drink, dullness and, 69
 Drummond, 230
 Duguit, 267
 Durkheim, 77, 266; on division of
 labour, 164, 165-6; on herd instinct,
 160-1; social solidarity concept, 132
 Eastern communalism, 83; adaptation
 of to new conditions, 85
 Ecology and economics, 227-8
 Economic and behaviouristic man, 14
 Economic evolution at work, 251;
 influenced by biologic and psychic
 factors, 237-8
 Economic group v. economic man, 39,
 124, 128-9
 Economic man, modern, 123, 165
 Economic pathology, 224-5, 227, 259
 Economic theory, contributions to of
 the new biology, 248-51
 Economic types and their formation,
 192-3

- Economic vitalism, 25
 Economics, behaviouristic standards in
 143-5, 256; biological aspect of,
 17-19; changed outlook in, 124;
 enlarged conceptions of, 124-6;
 enlargement and humanization of,
 116-7; human value in, 268;
 humanization of, 259-60, 270-1;
 new basis for, 123-4; new biology
 and, 248-51; new standards necessary
 to, 143; now social rather than
 individualistic, 15; psychological
 foundations for, 256-7; standards
 of, 16; welfare aspect of, 17; widened
 scope of, 31-2
 Economics, Austrian school of, 101, 126,
 128, 129, 130, 134, 141
 Economics, businessman's, 100-1
 Economics, classical and neo-classical,
 biology and, 218; Darwinism and,
 33, 122, 230-1, 252; founded on
 rationalism, 23-4, 32, 184; inade-
 quate psychology of, 35, 38-9, 100-1,
 121; mechanical ideal of, 33;
 modern psychology and, 101, 218;
 not abreast of modern science, 13,
 32, 254; urbanism of, 115
 Economics, evolutionary, in the making,
 252; need and scope of, 21-2
 Economics, historical school of, 21, 124-5
 Economics, individualistic, break-down
 of, 120-3
 Economics, New Theory of, suggestions
 for, 143-8; welfare, not wealth, the
 motive, 183-5
 Economics, price, inadequate, 117-8,
 257
 Economics, regional, studies in, 262-4
 Economics, Smithian, and individualism,
 33
 Edgeworth, 101, 102
 Efficiency, factors in, 105, 210; in
 standardized production, preferred
 to originality, 224; instinct and
 custom as affecting, 104-7; study
 of and its results, 107-9; vital,
 sacrificed to wealth-getting, 222
Élan vital, 25, 252
 Elasticity in group life, 235, 238
 Electrical reactions from emotional
 states, 206
 Ellis, Havelock, 263
 Emotion, evolution of, 153-4
 Emotional elements in industry, 111-2
 Emotional life and blood supply, 151-2
 Emotions and energy production, 205-6,
 211-2; expression and chemistry of,
 148-50
 Energetics, 212
 Energy, conservation of in the living
 organism, 201-2; laws of, as ex-
 pressed in economics, 199-200;
 transformation of, shown in vital
 phenomena, 203, 209; true measure
 of economic values, 197-8
 Energy, nervous, produced by emotion,
 205-6
 Energy, psychic, correspondence of with
 physical, 209-10
 Energy, social, cycle and rising spiral
 of, 216-7
 Energy, sources of, danger of exhausting;
 221-2
 Energy-capture, mechanism of, 198-9
 English, psychology of the, 79, 193-4
 "Enlightened self-interest," 40, 72
 Environment and race, 250-1
 Espinas on nutrition, 229
 "Eternal values," 12
 Ethical revival and social solidarity, 270
 Eucken, 270
 Eugenics and defective stocks, 221, 224
 Europe, Asiatic invasion of, 40-1
 European mind as standard, 265
 Evolutionary laws and factors, 223-5
 Experience, evolutionary, 211; memory
 of, 237
 Experimentation, 183, 184, 185
 Exploitation, beginnings of, 48-9; of
 Africa and Asia, 182
 Expression and repression, 29, 166, 258
 Factory system, 46
 Farmer, Eric, on rhythm in motion study,
 107-8
 Fashion, 56, 58, 105
 Fatigue, 108, 109, 111, 112, 155, 176-7,
 223; psychological, 156; social, 176
 Feasts and festivals in the East, 69-70, 97
 Federn, Paul, 177; on sovietism, 180
 Feeling and rationalizing, 152
 Féré on fatigue, 176
 Ferenzi, 177; on machines as trans-
 ferences, 181
 Ferri, 186
 Fetter, 101, 102, 257; on price economics,
 117
 Fights, animal, 232
 Fleure, H. J., on association of mental
 with physical qualities, 188-9
 Follett, Miss, 266
 Food and disease, 241
 Food consumption and energy pro-
 duction, 200, 201-2; in symbiotic
 relations, 245-6
 Food supply and sociality, 41; in
 anthropology and economics, 228-30
 Freedom attained by balance, 166
 French, psychology of the, 79
 Freud-Jung-Adler movement (or
 Freudism), 28, 38, 111-2, 166-7,
 257, 269
 Fungi, 242, 243
 Galton, 258; on undeveloped instincts,
 66
 Gambling and contested games, 171
 Geddes, Patrick, 230, 249; regional study
 by, 266
 Geneticism, a middle way, 32

- Geography, economic, 192; stimuli of, 260
 Giddings and consciousness of kind, 161, 163, 165, 190; on Comte's order of sciences, 255; on environmental stimuli, 260
 Gilbreth, F. B., and motion study, 107
 Glands, ductless, and racial types, 187-8
 Goal of economic progress, 229
 Goods, bundles of utilities, 128
 Group concept in social science, 121
 Group conflict, 230
 Group efficiency experiments, 154
 Group formation and interests, 138-9
 Western experiments in, 235
 Group ideas and needs, 136-7
 Group in the individual, 234
 Group life, co-ordinated, now needed, 72-4, 258; modern study of, 10, 12, 19, 20-1; new type of, 123; of social animals, 73, 232-6; specialization in, 234-5, 238-9
 Group, the, new economics of, 135-6; new sciences of, 267-8; psychology of, 78-9, 267-8; subordination of individual to, 73, 230-1
 Group utility and remuneration, 134-5
 Groups and values, 19-20
 Growth cessation and mental power, 189
 Guild regulations in the East, 91, 93-4, 95-6, 97-8
 Guild socialism, inadequate, 122, 123; primitive, 227

 Habits, occupational, 109
 Hall, Stanley, on food drive, 40; on influence of sex, 63; on need for stimulus, 68-9
 Hamilton, 102
 Heat, moist and dry, 185-6; organic, 204-5
 Heats of combustion, 201
 Herbartian psychology, 146
 Herd and the individual, 39
 Herd behaviour and value, 37
 Herd influence, 20
 Herd instinct, 64-5; in conflict, 172; origin, expression and problems of, 160-1; phenomena of, 161-3
 Heredity, 192, 223-4
 Hill, A. V., 201
 Hoarding, 49
 Hobson, J. A., 257
 Hough on nerve storage, 208-9
 Houssay, 229
 Human mind, modern view of, 167
 Human nature, lacks adaptability to economic demands, 167, 179, 184; variable, 121, 122
 Humanization of economics, 259-60, 270
 Hume, 142
 Hunger instinct, 40-2; as basis for higher evolution, 153; in conflict, 171-2
 Hunting instinct in degeneration, 41
 Huntington, 263; on temperature, 261
 Hyper-individuation, a danger, 73

 Imitation and inequality, 163-4
 India, economic life in, 90-1; guilds in, 91; *panchayats* of, 92-3
 Indian cities, jurisdiction of tradesmen and thieves in, 91
 Indian village, artisans and servants of, 91, 92; communalism of, rigid, 235; distribution of, 52; regulation in, 88-9
 Individual in the group, 120-1, 234; subordination of to the species, 73, 231
 Individualism, 33; economics of, breaking down, 120-3; ethics of, 87; in Eastern communalism, 88; industries favouring, 50, 51; nations noted for, 81
 Industrialism, 18, 44, 45, 61; dullness of, 68-9, 70; in Japan, 90; in the East, 113-4; racial effects of, 220; remedy for, 75
 Industries, communal and individualistic, 49-51
 Industry, adaptation of to climate and temperature, 263; perverted diathesis in, 247, 248; proportion of males to females in, 62; psychological factors in, 109-11, 113; psychological tests in, 108; repression of instinct in, 173-4; under communalism, 91-2
 Insects, co-operation among, 232-4; provision for young by, 47, 233; separate types or castes among, 233, 235
 Instincts, adaptation of in social reconstruction, 85; æsthetic, 170, 171; as basis of values, 37-9; as economic units, 146, 256; balance of, 173; classified, 169; communal, of the East, 83; conflict of, 171-3; creative and distributive, 74-5; curiosity, 59; discipline and repression of, 66-7, 145; fusion of, 37, 39; groups of, 36-7; herd or group, 64-5, 160-1, 172, 173; human, variable, 121; hunger or food-getting, 40-2, 170; McDougall's list of, 36; militant, 58-9; parental, 59-61; psychology and, 194-5; self-assertion, 57, 171, 172; sex and domestic, 61-3, 63-4; social, 58, 221; social importance and regulation of, 34-5, 55-7, 66; storing or acquisitive, 46-9, 170, 172, 173; wholesome outlets needed for, 69-70; work or constructive, 42-4, 171
 Instincts, direction of, 71-2; the ultimate economic problem, 72-4
 Institutional adaptation, 258-9, 268
 Intellect, 195; and emotion, 206-8
 Intellectuals, ascendancy of in China and India, 57

- Intelligence, biological conception of, 210, 211 ; chemico-physical theory of, 205
- Interest in work damped by industrialism, 44, 68
- Introspection, 155, 164
- Irrigation-man, 50-1
- James, Professor, on relation of emotions to bodily changes, 148
- Japan, friendliness of capital and labour in, 90, 95-6 ; guild customs and wages in, 95-6 ; rural co-operation in, 94-5
- Jevons, 42, 101, 128
- Joint family, 60
- Jones on the unconscious, 167
- Jung, 206 (*see* Freud)
- Keith, Sir Arthur, 187
- Kessler, 230
- Kirkpatrick, 44
- Knies, 102 ; on historical interpretation of economics, 125
- Kolman, Aurel, 267 ; on national psychology, 194 ; on Russian Marxism, 179-80 ; on sovietism, 180-1
- Kropotkin, 52, 230, 249
- Labour, collective *v.* individual, 154
- Labour-saving devices, drawbacks of, 68
- Labour solidarity in China, 97-8 ; in India, 91-2 ; in Japan, 96
- Lamarck, 249
- Land distribution problem, 49 ; economic view of, 115 ; hunger for, 115, 180, 182
- Law, new basis of, 266-7
- Leadership, 58
- League of Nations, 21
- Leasehold tenure, 34
- Le Bon, Gustave, 65, 127, 190 ; and social psychology, 263 ; on national history, 79 ; on the soul of a people, 78-9
- Lefevre on diet and heat production, 202
- Le Play's occupation analysis of a region, 265-6
- Letourneau, 48
- Lévy-Bruhl, 77
- Lewinski, J. L., 51
- Libido, 173, 178, 182, 190, 193
- Lichens, not fungi, 242
- Life and adaptation, 144 ; chemistry of, 200 ; phenomena of as energy-transformation, 203
- Limitation and values, 37-8
- Lippmann, 35
- Loeb, 35, 43, 205
- Lombroso, 186
- Lorenz, 177
- Lotka, A. J., on man's energy-capturing equipment, 198-9
- MacDonald, Ramsay, on Sorel and Bergson, 159
- McDougall, 165, 266 ; on climate and activity, 185-6 ; on competition, 80-1 ; on economic psychology, 35 ; on herd attraction, 161 ; on instincts, 35, 36 ; on lichens, 242-4 ; on racial psychology, 79, 263 ; on social psychology, 77 ; on symbiosis, 242
- Machines *v.* men, 45-6
- McIver, 266
- Maeder on English national character, 193-4
- Maeterlinck, 244
- Malthus, 61, 218, 230
- Malthusianism, 218-9, 230
- Man, a villager, 70 ; as modified by environment, 189-91 ; controller of his evolution, 252 ; in classical and modern economics, 15 ; modern study of, 10 ; self-consciousness of hypertrophied, 73 ; social heritage of, 238-9
- Manipulation, neglect of, 44 ; satisfaction of and labour solidarity, 45-6
- Marginal utility theory, 127-9, 141-3
- Marriage, origin of, 38
- Marshall, Dr. Alfred, on art impulse, 44 ; on measurement of motive, 102 ; on pleasure in work, 42-3 ; price economics of, 117 ; value analysis of, 129-30
- Marx, Karl, 133, 158, 180
- Marxism, 133, 135 ; anti-intellectualism of, 158, 159, 180
- Masaryk on old Slav and Russian democracy, 81-2
- Mason on inventions of women, 43
- Mass mind, Marxist theory of, 158-9
- Massarolli, 186
- Maxwell, J. Clerk, on nature's credit system, 198
- Meade, experiments of, 154
- Memory, organic and psychologic, 208
- Mendes-Correa, 187
- Menger on social science, 142
- Mental and physical characters, 188-9
- Mental deficiency study, 109
- Mental disease levels, Campbell's chart of, *facing p.* 157
- Micro-organisms, disinfectant, 246
- Middle-class difficulties, 220
- Migration, climate and, 40-1
- Militant instincts, 58-9
- Mill, 101, 142
- Miners, 46
- Mitchell, 101, 257 ; on instincts and "tropisms," 35-6 ; on marginal economics, 142
- Monkeys, 236
- Montesquieu, 186, 263
- Morality, private and business, 175
- Morris, on pleasure in work, 46
- Morselli, 186
- Mosso on brain temperature, 205 ; plethysmograph of, 187
- Motive, human complex expression of, 11 ; need for unity in, 117

- Motives, economic, 101-3
 Muhammadans, *brit* custom of, 91-2
 Myers on fatigue phenomena, 176-7
- National history and character, 79
 Naturalism and humanism, 268
 Nervous disease in industry, 112
 Nests in common, 47
 Newsholme, 258
 Nordau, 258
 Novikow, 236
 Nutrition, a fundamental evolutionary process, 228-30; as energy-transformation, 200-1
- Occupations and heredity, 223-4; and instincts, 67-9
 Opium, why Chinese smoke, 69
 Ostwald, 103
 Output, restriction of, 175
 Ownership, moral effect of, 53
- Pain, interpretation of, 150
 Palmer on Slavonic and Jewish ideals, 81
Panchayat, the Indian, 92-3
 Parasitism, biologic and economic, 240-1, 242, 243, 251; dangers of, 249
 Parental instinct, 59-61
 Parker, 257; on casual labour, 63
 Parmelee, 35, 41, 257
 Paternalism and despotism in industry, 178
 Paterson, 206
 Pathogenesis, 241
 Paton on pathological study, 269
 Patriarchalism, 60; in Japanese industry, 90
 Patrick, Dr., on industrial labour, 72
 Patten, 166, 257
 Pearson, Karl, 255, 258
 Penta, 186
 Personality, disintegration of, 258; evolution of in the group, 158-9; neuro-biological treatment of, 256
 Perverted diathesis, 246-8
 Phagocytes, 227, 246
 Philippine Opium Commission, 69
 Physiological variation, 187
 Physiology, comparative, and wage-levels, 223; of labour, 222-3
 Physio-psychological tests, 223
 Pierantoni, 244
 Plant and animal alliances, 245-6
 Pleasure and pain, law of, 150-1
 Pleasure-pain psychology, 101, 153
 Poorest classes, increase of, 220, 221
 Population problem, 105, 219, 220; becomes ethical by mutual service, 248
 Potier, 244
 Pound, Roscoe, 267
 Predacious temper in society, 84-5
 Predatory species, solitary, 41; unsuccessful, 232
- Price and marginal utility, 141
 Prism of life, 260
 Production, co-operative, not specific, 131-4; economic, as an equation in mechanics, 199-200; modern, violates biological law, 221
 Progress, criterion of, 173
 Projection, 175, 178
 Proletariat, labour as, 133; Russian, 180; submerged, 248, 251
 Property, affected by topography, 51; communal *v.* private, 52-3; evolution of, 49; in land, 49, 88; instinct of, 48; offences against, 170-1
 Protoplasm, 200
 Psychiatry, 28, 107, 112, 224, 258-9
 Psychism, 112
 Psycho-analysis, 28-9, 38, 103, 259; and land-hunger, 181; and unrest, 179-81, 267; bases social study on the unconscious, 167; illuminates domestic life, 63-4; interprets mass impulses, 177-8; investigates economic pathology, 111-2, 257; of nations, 193-4
 Psychological atomism, 24; criticism of classical economics, 101; factors in distribution, 113; factors in industry, 109-11; foundations for economics, 256-7; measurement, 109; tests in industry, 108
 Psychology, abnormal, 156; as ally of economics, 27-9, 164-6, 219; bio-chemical treatment of, 255; economic, as branch of social behaviourism, 165; educational, 156; organismic, 264, 265
 Psychology, social, basis of the social sciences, 77; further work for, 194-6; human nature study of, 121-2; light from on economics, 156; racial and national, 79-82; subject of, 192
- Race and environment, 250
 Race formation, 191-2
 Race suicide, 219
 Railway workers, 45-6
 Rationalism revolt against, 23-4
 Ratzel, 263
 Reaction, stimulus and, 146-8
 Read, Carveth, on constructive impulse, 43; on herd instinct, 160; on storing instinct, 47-8
 Realistic philosophy and syndicalism, 159
 Reconciliation, the Great, 270-1
 Reconstruction, industrial, new ideas in, 71; syndicalist and guild socialist schemes of, 122-3
 Reconstruction, social, adaptation in, 85; Eastern and Western programmes of, 87-8; new economics and, 29
 Recreations, communal, of India, 69-70

- Region as mould of peoples, 261-2, 266 ;
economics of, 262-4 ; fluid, not fixed,
266 ; fundamental importance of, 10 ;
modifies human constitution and
behaviour, 188-9
- Regressions, 177-8, 182
- Regulation, function of Eastern village
communities, 88-9
- Reinheimer on perverted diathesis, 246-7 ;
on symbiosis, 244-5
- Relativity, 13
- Repetitious work, 45
- Repressed desires and economic unrest,
29, 34, 53, 63, 155, 167, 171, 179, 267 ;
importance of, 11 ; in group life, 20,
179 ; in modern industry, 173-4 ;
nervous strain of, 67 ; psycho-analy-
sis and, 28, 173 ; sexual, 62, 63, 171
- Repression, economic, 258 ; effects of on
social thought, 268
- Respiration calorimeter, 201
- Retgression, racial, 250
- Revolutionary outbursts, 267-8
- Rhythm of work process, 108
- Ricardoism, 117
- Rice culture, communal, 50, 51
- Rivers, 257 ; on pathological schemes,
174
- Robertson on efficiency methods, 108
- Roscher, 102 ; on national life, 124-5
- Ross, 127 ; on family solidarity in China,
61 ; on occupations and instinct, 67
- Rubner on animal heat-production, 202
- Rural exodus and crowd instinct, 65
- Russell, Bertrand, 158 ; and self-govern-
ment in industry, 159 ; on man's
preference of achievement to wealth,
71 ; realism of, 159-60
- Russell, George, 270
- Russia, agriculture and urbanism in, 115
- Russian economic unrest, 179-81 ; village
community, 81, 82
- Saleeby, Dr. 258
- Sarkar on Chinese communes and guilds,
93
- Satisfaction values, 146
- Scandinavian homes, 51-2
- Schaffle, 165, 236
- Schmoller, Gustav, 102, 125
- Schools of economics and value, 24-5
- Sciences, "abstract" or basal, 254
- Scientific management, 108 ; confined to
businessmen, 223 ; mechanical, 18,
34 ; unscientific, 16
- Scott, Robertson, on Japanese irrigation
works, 95 ; on psychological factor
in efficiency, 107 ; on Sorel and
Bergsonism, 159
- Self-display, 56, 63, 64, 75 ; corrected in
China and India, 57
- Senior on love of distinction, 105
- Sensation and utility, 129 ; evolution
of, 153-4 ; in economics, 143
- Serbian family community, 81, 82
- Sex instinct and its repression, 61-3,
171 ; in conflict, 171-2
- Sex-maturity and climate, 189
- Sherrington, on integrative action of the
nervous system, 209
- Shibusawa, Baron, on capital and labour
in Japan, 90
- Sidis, 264
- Simplification for fresh advance, 227
- Skill, factors in, 109
- Skin-colour, mind and region, 188-9
- Slavery as parasitism, 241 ; origin of, 48
- Slavs, co-operative ideals of, 81
- Social anthropology, 196
- Social behaviour, 262, 265 ; new work
on, 64ⁿ
- Social direction, 19
- Social impulses, habits and institutions,
191
- Social inheritance, 195 ; created by
region and adaptation, 264
- Social life, to be subserved by individual
activities, 226
- Social philosophy and economics, 165-6
- Social sciences, allies of, 9, 10 ; based
on social psychology, 77 ; bases of,
218, 254, 255 ; compared with
economics, 16 ; in Comte's order of
sciences, 255 ; modern progress in,
10-11
- Social situation, 120
- Social stimuli, 261-2, 264, 265
- Social valuation, 128
- Socialism and economics, 31 ; and the
land, 115, 181, 182 ; and the State,
123, 175 ; ideal of, 162-3 ; revolu-
tionary, 167
- Sociality and brain development, 236-7
- Society and organism, 215-6
- Sociology and economics, 124-6 ;
Regional, new work on, 228
- Socio-psychological analysis, 145-6
- Soddy on identity of organic and
inorganic energy, 204-5
- Sombart, 102
- Sorel, 159, 175
- Soul of a people, 78-9
- Sovietism, a coming polity, 98 ; advance
or reversion ? 180-1, 227
- Specialization and group life, 234-5 ;
excessive, 251 ; necessary to civiliza-
tion, 238-9
- Species, subordination of individual to,
73, 230-1
- Spencer, 165, 230, 236
- Standardized production, 34, 44
- Starch on galvanometric changes caused
by mental processes, 206
- State, centralized, overgrown, 247
- Statistical method, 10, 20-1
- Steinmetz, 264
- Stimulus and reaction, 146-8
- Structural differentiation superseded by
mental specialization, 235-6
- Struggle hypothesis corrected, 230-2

- Sublimation cure for repressions, 179 ; illustrated, 174-5, 235
 Sucking flies and insects, 244
 Suicide, seasonal, 186
 Supply, behaviouristic analysis of, 144-5
 "Surplus value," 133
 Survival of the fittest, 230-1
 Symbiosis, 241-2, 249-50, 251
 Syndicalism, anti-intellectual, 135, 159 ; dramatizes coming revolution, 175 ; French, 159 ; inadequacy of, 122
- Tapeworms, 241
 Tarde, 127, 163, 166, 190, 264
 Taxation, principle of, 133
 Taylor, F. W., 107
 Tead, Ordway, 102, 257
 Temperament, 80
 Temperature, importance of, 261
 Termites, 235
 Thermo-dynamics, 197
 Thomas and Znaniecki on the Polish peasant, 80
 Thomson on Darwinism, 230 ; on man's storing instinct, 47 ; on sublimation of the sex-urge, 235
 Thorndike, 35, 42, 156, 165, 256 ; on fashions, 56 ; on self-perfecting man, 57-8
 Thought a physiological fact, 210-11
 Titchener on Weber's law, 147
 Tolstoy, 52
 Topography and property, 51-2
 Trade unions (guilds) in China, 93-4, 97-8 ; in India, 91-2 ; in Japan, 95-6
 Trade unions, Western, and the State, 124, 136 ; capitalist criticism of, 175 ; intermediate function of, 136 ; legal difficulties made by, 137 ; rigidity of, 179 ; success of, 134, 135
 Transferences, 178 ; machines as, 181-2
 "Tropisms," 35, 205, 255, 262, 268
 Trotter on herd instinct, 160, 163, 190
 Tugwell on behaviouristic psychology of production, 144-5 ; on conceptualism, 140
- Unconscious mind, 23, 38, 257 ; as basis of the new economics, 166-7 ; conflict of with conscious self, 26-7 ; psychology of and economic unrest, 29, 34, 103
 Unity of reactions, 208-9
 Unrest, economic, in the East, 113-4 ; proposed remedy unsound, 72 ; psychological causes, 29
 Urban problem in the East, 114-6
 "Urge," composite economic, 25-6
 Urges, economic, 169-70 ; conflict of, 171-3 ; pathological reactions of, 170-1
 Utility and value, psychological bases of, 154-5
 Utility, initial and final, 155
- Valuation process, complex, 11
 Value, a social product, 15, 19-20 ; an act of choice, 102 ; behaviouristic analysis of, 143-4 ; evolutionary view of, 17 ; group concept of, 126-30 ; in terms of energy, 199-200 ; old and new views on, 14-16 ; psychological view of, 15-16 ; three views of, 24-5 ; unconscious and, 23
 Values, ascent of, 269-70 ; conservation of energy and, 255 ; cycle of, 26 ; economic, based on limitation, 37-8 ; human, 28 ; institutional conception of, 268-9 ; new psychology of, 39 ; sense of, 199, 221 ; social, 268-9
 Variable factors in human problems, 11-2
 Veblen, 35, 42, 57, 72, 113, 165, 190, 257 ; on social standards, 58 ; on social stratification, 84-5 ; on the marginal utility school, 141-2
 Vegetarian species, social, 41
 Village communities of the East, 83, 88-9 ; of the Slavs, 81, 82 ; of Western Europe, 89
 Vine culture in France, 50
 Vocational tests and guidance, 109-10
- Wage system, 33-4, 241
 Wage theory in group economics, 134
 Wagner, 102, 125
 Wallas, Graham, 18, 35, 67, 128
 Waller on electrical changes produced by emotion, 206
 Wants, determined socially, 127 ; laws of, 228
 War, European, 29, 31
 Ward, objective economics of, 166
 Watson, 257
 Wealth, created by group mind, 39 ; production of, carried too far, 222
 Weber-Fechner experiments, 146
 Weeks, Professor, on de-souled work, 68
 Welfare in economics, 17, 257-8 ; to replace wealth as object of economics, 183-4
 Wheat culture, individualistic, 51
 Williams, on German economists, 102
 Wisser, 146
 Women, divide labour with men, 229 ; first artists and inventors, 43 ; in individual life, 62
 Woodworth, 257, 263
 Work and life, law of, violated in modern industry, 221
 Work as transference of energy, 198 ; biological view, 247-8
 Work instinct, 42-4, 170, 171
 Worker as end in himself, 110
 Wundt on laws of stimulus and reaction, 147-8
- Young, 197

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