UNIVERSAL
LIBRARY
OU_148969
UNIVERSAL
LIBRARY

OSMANIA UNIVERSITY LIBRARY

Call No. 312/F45E Accession No. 6,1879

Author Field, J. M.

Title Essays on population:

This book should be returned on or before the date last marked below

THE UNIVERSITY OF CHICAGO
STUDIES IN ECONOMICS

†

Published under the Direction of

THE DEPARTMENT OF ECONOMICS
THE UNIVERSITY OF CHICAGO

NO. 1

Essays on
POPULATION

Essays on

POPULATION

AND OTHER PAPERS

By

JAMES ALFRED FIELD

TOGETHER WITH
MATERIAL FROM HIS NOTES AND LECTURES

Compiled and edited by

HELEN FISHER HOHMAN

With a Foreword by

JAMES BONAR, LL.D.



THE UNIVERSITY OF CHICAGO PRESS
CHICAGO · ILLINOIS

COPYRIGHT 1931 BY THE UNIVERSITY OF CHICAGO
ALL RIGHTS RESERVED. PUBLISHED JUNE 1931

COMPOSED AND PRINTED BY THE UNIVERSITY OF CHICAGO PRESS
CHICAGO, ILLINOIS, U.S.A.

FOREWORD

There must be not a few on the American continent who have had the advantage of a lifelong knowledge of the author of the following papers. On the European continent he was far from being known as he deserved. It may be well, therefore, that a word or two should be spoken in commemoration of him by a British fellow-student of his subjects, one who felt the attraction of his personality and prized his friendship as well as his writings.

In 1909 we fell into correspondence about Robert Owen, and a few years later (1915–16) exchanged many letters about a projected reprint of the first *Essay* of Malthus, to be brought out by the Harvard Press. Nothing came of this eventually (I know not from what obstacles), and the course was left clear for the reprint by the Royal Economic Society in 1926. Field's intention was to reproduce at the same time the *Summary of Population*, 1830, but this proposal lapsed with the other.

In 1910 we became personally acquainted at the meeting of the American Economic Association, St. Louis, and I afterward enjoyed more than one friendly meeting with him in Chicago, the scene of his daily labours. He struck me even then as a man of more than one talent.

It rarely happens that a man's place in early life allows him full freedom in choice of a profession, and from his success in the career actually followed we can by no

means infer that his work drew out his best talent. Like most of us, Field had his course largely guided by circumstances. The story of his life shows that more than one way was before his mind in youthful days; he did not think himself predestined to be professor of political economy or nothing else. Economists gained when he was added to their ranks—not, we trust, at the expense of the man himself if his best faculty lay elsewhere.

The economic faculty was certainly there, as the following documents abundantly testify. He fastened from the first with avidity on one particular class of problems, and his papers are nominally confined to that class. But for the proper handling of any particular class there must be, and there was here, a broad general grasp of the whole, in relation to which the place of the part is defined for it.

Mrs. Hohman has, in my judgment, rightly put her finger on one feature as eminently characteristic. Field was fonder of putting questions than of giving the answers. He might have justified himself by referring us to Berkeley's *Querist*, consisting entirely of queries, but of queries that compel thinking.

Here and there our author gives us a more than Berkeleian hint of the answers. It would be entirely wrong to apply to himself what he says of Malthus,[1] that he was a painter who mixed his colours by lamplight and found them at variance with nature by day. He is always watching to keep out the illusions of the study. He knows, too, how large is the subject of population, which Coleridge and Hazlitt, in the days of Malthus, thought so small and simple. The different points of

[1] See p. 6.

view taken by controversialists are, on the contrary, bewilderingly multitudinous. Field takes up one after another and passes judgment on it with clearness and candour. His historical survey[2] is one of the most comprehensive ever published, even if, from their number no one writing for or against Malthus is dissected at full length. In the St. Louis paper of 1910[3] he did not flinch from unpleasant details which most of his colleagues would have left to the doctors. But as a rule he prefers general theory. In the Toronto paper[4] on "Eugenic Worth and Economic Value," he sums up in the manner of a judge who, after hearing the special pleadings of the advocates, prepares the jury for their verdict by reviewing the whole evidence. This paper perhaps shows him at his very best in this kind of discussion, involving both the general and the particular.

I feel that he had still much to tell us, when the deadly disease cut short his powers of speech two years ago, but we are glad his work, so far as it had gone, is not without record.

J. B.

April 25, 1929

[2] See Essay I. say IX.

EDITOR'S PREFACE

This volume appears in response to a desire voiced by a number of his students, that the contribution to the study of population problems and theory made through the writings and lectures of James Alfred Field might be delivered from the inconvenience of dusty journals and the oblivion of students' notebooks and brought together in a permanent and easily accessible form. Such being its origin, the book cannot claim to be a comprehensive treatment of the entire range of subjects which engage the interest of the student of population problems. It presents, rather, the considered reflections of a scholarly and ingenious mind upon certain aspects of current issues and ideas which struck its imagination, together with the fruits of careful research in fields which were particularly congenial. To these essays dealing specifically with population have been added three other papers dealing respectively with statistical method, the graduate teaching of economic theory, and the standard of living, two of which, at least, cover a range of topics not ordinarily associated with population problems. The disparity in subject matter is, however, to a considerable extent, more apparent than real. Taken as a whole the book is representative of Professor Field's threefold academic interest in the relat elds of population, the standard of living, and method. The chronological arrangement has sen as it best serves to show the growth of a period of more than twenty years. S occurs is inevitable in

written at different times and to serve different purposes.

Happily Professor Field had set forth most of his salient ideas in print, and thus articles already published furnish the greater bulk of the volume. Two of the essays, "The Malthusian Controversy in England" and "Eugenic Worth and Economic Value" are published here for the first time. The former, a piece of detailed research, the latter a broad philosophical treatment, represent his earliest and latest writing on the subject of population. There are doubtless a number of students of the neo-Malthusian movement who will welcome ready access to the "Early Propagandist Movement in English Population Theory," an article long out of print, and included here as Essay III. Essay IV sets up a milestone in the study of the development of the science of eugenics, and also marks a point from which subsequent progress may be measured. Essays VI and VII dealing with the birth-control movement in the United States are of interest chiefly for their connection with contemporary social history. It was thought also that something more of Professor Field's maturer work might profitably be recorded, and hence the editor has undertaken to supplement these articles with material gathered from the lectures which he delivered at the University of Chicago during the years [illegible]. These reconstructed sections form Essays X, [illegible] XII. The skeleton outline of his course on "The [illegible] of Living" appears as number XV.

[illegible] eavy duty which is laid upon the editor who [illegible] roduce Professor Field's ideas, as those who [illegible] the precision of thought and care for [illegible] teristics of his teaching

will readily appreciate, and it is not without external warnings and inner qualms that the task has been undertaken of reconstructing for publication the material presented in his lectures. It is a task which at best cannot be satisfactorily executed. Those who have felt the charm and force of Professor Field's personality as a teacher will find in these pages something less than the master. Those who approach the work as strangers will detect gaps in content and inconsistencies in style. But in spite of these inescapable limitations the venture has been thought worth the hazard. Even though receiving less than they would like, it is hoped that students of Professor Field may enjoy in reflected glory that intellectual clarity and brilliance which they came to expect in his classroom, and will feel grateful that even so much of his contribution as is herein contained may be given a permanent place in the development of thinking on so important a series of problems.

Professor Field left no connected manuscript of his lectures, and unfortunately no shorthand notes were taken by students. In preparing the text based on these lectures, it has therefore been necessary to rely chiefly upon such fragmentary outlines as he had made for his use in class, often little more than catchwords to suggest a train of thought, and on the class notes which students have very kindly lent for the purpose. A few short manuscripts on particular subjects were also available. No one of these sources is complete in itself, and at times [illegible] to supplement one another. Inasmuch

It is a major delights in listening to Professor
essays to repne from his manner of expression, the
are familiar with the mind of the editor work
form which were [illegible]s has been to extract

serve intact, in so far as possible, the exact phraseology in which the lectures were given. The function of editing has been subordinated to fitting together the scattered fragments, and other material has been injected only when it was necessary to fill in chinks in the thought or to supply mortar to support and hold together the disparate blocks out of which the edifice has been constructed. Blocks which could not be made to fit without too much cement have been discarded.

These essays and lectures on population have an historic interest quite apart from whatever general contribution they may make to thought, for Professor Field's course, first offered at the University of Chicago in the autumn of 1908, was one of the first courses devoted exclusively to population to be given in an American college or university.[1] Previously the subjects relating to population in its social aspects had been treated as a more or less incidental part of general courses in economics and sociology. Professor Field was a pioneer in raising the subject to the dignity of a distinct entity, worthy of independent status; and his teaching extending over nineteen years did much to sustain the venture. This peculiar attention to population problems dates from his graduate days at Harvard University. He seems to have been first attracted by the discussions of eugenics, then quite new and exciting. Undoubtedly he owed much to Professor Taussig and Professor Carver during his years of residence in Cambridge, as likewise his later thought

[1] A. B. Wolfe, "The Population Problem since the War," *Journal of Political Economy*, XXXVI (October, 1928), 532: "Probably the first such courses [devoted specifically to population] in this country were offered at the University of Chicago by the late J. A. Field, at the University of Wisconsin by E. A. Ross, and at Oberlin College by the present writer [A. B.

was frequently stimulated from those fertile sources. A carefully prepared manuscript of 126 pages, written in longhand on "The Malthusian Controversy in England," is dated 1906 (?), and bears the address, "1, Apley Court, Cambridge, Massachusetts."[2] It is a meticulously documented and well-written article which shows a thoroughgoing acquaintance with the more obscure, as well as the generally recognized, writers in England during the nineteenth century. It is surprising, in reading this and other early manuscripts, to find how, even at that time, his mind was attracted by those aspects of the subject which suggest the most subtle and contradictory questions. Conspicuous among them is the idea of the conflict of individuation and genesis, brilliantly stated by Herbert Spencer three-quarters of a century ago, and applied by Professor Field with equal brilliance to the problems of family life presented by the growing practice of voluntary parenthood. As early as 1909 he pointed out the nature of the problem in discussing a paper on "How Far Should the Members of the Family be Individualized?" read by Professor J. E. Hagerty before the annual meeting of the American Sociological Society of that year;[3] and his last paper on "Economic Worth and Eugenic Value," read before Section F of the British Association in 1924, deals with some further refinements of the same ideas.[4] I do not believe that what led Professor Field into the study of population problems was a concern for the fate of nations or a passion for statistical technique, although these were not

[2] The manuscript with a few additions and alterations forms the first essay in the present volume. See note p. 1. It was probably written in the period 1906–1908.

[3] See Essay II. [4] See Essay IX.

without interest for him. They held his interest rather because they are so inseparable from the intimate problems of personality. Throughout his life he continued to ask, not "How shall the economic system be geared to produce the maximum wealth?" but "How may human beings reconcile the aspiration for rich and full living with an economic system which offers its rewards only in return for the most intense and self-exploiting specialization?" "How may we combine the self-sacrificing functions of parenthood with the urge for self-expression?" It is not peculiar, therefore, that his chief interest lay, not so much in the group problems of numbers and racial superiority, as in the more individual problems of parenthood. Before the Victorian prejudices had lost their force and birth-control had become a household word, he was scrutinizing the problems which this new power of choice held for man's destiny, and was asking what values it might serve. It is in connection with his interest in the historical aspects of birth-control propaganda in England and in his penetrating analysis of the problems which voluntary parenthood presents today that he made his most essential contribution to contemporary thought in the field of population.

Those who knew Professor Field as teacher and scholar cannot but regret that so much of his thinking must go unrecorded. But I do not believe he would have been troubled by such regrets. What he said in summing up the work of a friend and colleague is equally applicable to his own life. "He was not a person of results so much as he was a person of development. His thinking was a process, not a matter of conclusions. Had he lived to twice the length of his life he would perhaps have done not very much more than he did do to indicate to those

who came close to him what manner of scholar he was, or to define the way in which he believed that the work in which he was engaged should be carried through. . . . . He was a teacher—but is not a teacher one whose name is writ in water? . . . . The man who takes issue with our modern cant which puts 'productive scholarship' on the one side and the work of the teacher on the other has always the example of Socrates before him for his consolation. . . . . The printed page lives only as it also teaches. . . . . If the teacher shows the way toward something new and something better it matters less whose name endures in that particular connection."[5]

The usual acknowledgments of indebtedness are scarcely fitting in this instance, for the volume is the result, in a peculiar sense, of the collaboration of many individuals. So many of Professor Field's former students and friends have responded generously to the appeal for help that it would be quite impossible to name them all. The book, however, cannot go before the public without special mention of the service, unwittingly rendered in the first instance, by Professor Earl R. Beckner, of Butler College, and Professor W. C. Cleveland, of Indiana University, whose excellent notes of Professor Field's lectures have made possible the reconstruction of important sections. Dr. James Bonar, besides lending the volume the distinction of a foreword, has read the entire manuscript, and his exhaustive knowledge of Malthusiana has saved the text from many errors. Professors Hazel Kyrk, Helen Wright, and Helen Jeter,

[5] Address delivered by James A. Field at the Memorial Meeting for Robert Franklin Hoxie. *University Record*, Vol. III (New Series), No. 1 (January, 1917).

of the University of Chicago, have cheerfully allowed themselves to be consulted at every stage of the work; and if their suggestions and criticisms have not made the task of the editor easier, they have made the book better than it otherwise could have been. The work of editing the outline of the course on "The Standard of Living" has been done by Miss Kyrk and Miss Jeter. Professor Norman Himes has rendered expert service in the checking of recalcitrant references. Professor Jacob Viner, of the University of Chicago, has sponsored the project to the extent of reading and criticizing the entire manuscript and taking full charge of the arrangements for publication. The work would not have been undertaken, nor could it have been carried through, but for the co-operation and encouragement given at every step by Mrs. Field. More particular acknowledgment is made elsewhere to the publishers who have permitted the republication of the various articles, but a word of thanks is due them here. To those who knew Professor Field it is scarcely necessary to add that whatever mistakes the reader finds must be charged against the editor.

H. F. H.

EVANSTON, ILLINOIS
October, 1930

JAMES ALFRED FIELD

James Alfred Field was born in Milton, Massachusetts, on May 26, 1880. He was the second of three brothers, the sons of James Alfred Field and Caroline Leslie (Whitney) Field. His father was a civil engineer, born in Wisconsin, and educated at the Massachusetts Institute of Technology. His mother was the daughter of Mrs. A. D. T. Whitney, whom many will recall as the author of *Faith Gartney's Girlhood*, and was herself the author of some volumes of verse and several stories. Caroline Field was a native of Milton, and it was in the atmosphere of this graciously austere New England town that her character and that of her son were formed.

The very early years of Field's life were spent in Lakewood, New Jersey, where the father had gone to take charge of a textile mill. Upon the death of the father in 1884, the family returned to live with the grandparents in Milton. They remained there for four years, when the failing health of the grandfather made the presence of young children in the home undesirable. From 1888 to 1894 the family made their home in Guilford, Connecticut. In the latter year, the grandfather having died, they came back to Milton, to live with the grandmother in the old house, and to permit the sons to attend Milton Academy.

During these years, and indeed, until her December, 1902, a few months before Field's graduation from Harvard, the mother was the chief influencing in his life. It was she who introduced her sons

study of natural history and inspired in them her own deep love of nature. At first, these scientific interests took a literary turn, which found expression in the editing and printing of a small newspaper when the boys were respectively ten, six, and four years old. Later the quest of science led them to turn their attention to the study of insects, especially butterflies. By the time Field was thirteen years of age, they had assembled a collection having real scientific value and had acquired a very considerable knowledge for boys of their age. These early pursuits were not soon to be forgotten. The interest in typography continued through later life. Field enjoyed good printing as only a craftsman can. And so too, with natural science. Though he abandoned it as a field of special study, it served him well in his later work in eugenics and in the birth-control movement.

Field's formal schooling began in 1893, when he entered Milton Academy, "a little irregularly" to use his own phrase, due to the informality of his early training. He was soon, however, thoroughly *en rapport* with his class, except for French, which he did not study in school. This deficiency he made up in the summer before entering college, by working independently a few hours each day and passing the examination with the honor grade. He was valedictorian of his class upon graduating from Milton in 1899.

In the autumn of the same year Field entered Harvard College. His intention was to specialize in mathematics and physics, but this project was abandoned in his second year. Although science continued to be his chief bent, he turned more and more to economics. His courses covered a wide range of subjects, and his liking almost equal for them all, the difficulty being a

"choice between favorites." At Harvard, as at school, his chief interest lay in his studies; but in addition to maintaining an "A" record, and winning the Jacob Wendell scholarship in 1900 and the John Harvard scholarship in 1901 and 1902, and being elected first Phi Beta Kappa man in his Junior year, he found time for the campus activities which made him, in his Senior year, an editor of the *Crimson* and leader of the Glee Club. In June, 1903, he was awarded the A.B. degree, *summa cum laude*, and with special honors in economics. He was Phi Beta Kappa orator of his class, and was also one of the Commencement Day speakers. He chose to speak that day on the subject of "The Honorable Unrenowned." The speech was a statement of a philosophy of life which was deeply rooted in him—the doing of tasks well, fidelity to high standards self-imposed, the distrust of facile praise. Some thirteen years later, when asked to deliver an address upon the death of a friend and colleague,[1] he returned, perhaps unconsciously, to the same theme.

The five years succeeding graduation from college, with the exception of a year abroad, were passed at Harvard University as graduate student, teaching assistant and instructor. During this time Field was reading widely in the fields of economics and sociology, and gaining much from contact with the men of those departments in the University. The academic year of 1905–6 was spent abroad. During the winter he attended the lectures of Professor Simmel and Professor Böckh at the University of Berlin. He also had work with Schmoller

[1] Address delivered by James A. Field at the memorial meeting for Robert Franklin Hoxie. *University Record*, Vol. III (New Series), No. (January, 1917).

Zahn, and Breysig. Later he traveled through Germany, France, and England. His reading appears to have centered about social psychology, statistics, and economics. That he already had a penchant for population studies is evidenced by a visit to Professor Karl Pearson, at the Eugenics Laboratory in the University of London. His diary records that the day previous to the visit was spent in the reading-room of the British Museum, delving into the publications of the Eugenics Laboratory.

The autumn of 1906 found Field back at Harvard studying and teaching, and beginning work on a thesis. What finally took form under his pen was the essay on "The Malthusian Controversy in England." The material was collected from many sources and put together with painstaking care. It bears evidence of a thoughtful interest in the problems of birth control, in the special consideration which is given to the discussion of the preventive check. The essay was probably prepared with the idea of using it as a doctoral dissertation. When he ave up the idea of getting an advanced degree, the anuscript was laid aside; and, although he drew on it for teaching material, he never prepared it for ublication.

Nineteen hundred and eight was a decisive year in Field's life. Before the end of the academic term he had decided against the pursuit of a degree, and he had also been offered a position in the Department of Political Economy at the University of Chicago. He accepted; and the remaining years of his life, except for a number of trips abroad, and the period of war service, were spent in the service of that institution. In 1914 he married Miss Amy M. Walker, of Chicago, and to them were born two sons, James Alfred Field and Charles

In the nineteen years, from 1908 to 1927, in which Field was a member of the faculty of economics at the University of Chicago, he rose successively from instructor, through the ranks of assistant and associate professor, to a full professorship in 1918. He co-operated with Professors L. C. Marshall and C. W. Wright in the preparation of two books, *Outlines of Economics* and *Materials for the Study of Elementary Economics*, the outcome of certain experiments in undergraduate teaching of economics which they had carried on. He also lectured at the Chicago School of Civics and Philanthropy. From 1909 to 1910, and from 1911 to 1917, he served as managing editor of the *Journal of Political Economy*. He participated in the work of various University committees, and was known to all as the University Marshal. From 1923 to 1924 he acted as an undergraduate dean. He was one of the founders and an active guide of the Orchestral Association, which arranges for the annual series of concerts at the University by the Chicago Symphony Orchestra. When the University Chapel was built, Field was charged with the chief responsibility for the selection of the organ, and to him also fell the task of finding the organist.

In an unofficial capacity Field's influence was felt in many ways. More than once, when the University of Chicago did not enjoy the full confidence of the local press, Field, acting entirely upon his own initiative, called in person upon the editor of a great daily to protest against the misrepresentation of the University before the community, and to present what he considered a more reasoned and fair point of view. He was for several years the center of a small group of faculty men wh met informally to discuss University policy. In so as he expressed himself on these subjects, it

emphasize the cultural responsibilities of a great University and to stress the importance of the undergraduate group.

It was, however, as a teacher that Field made his distinctive contribution. In the related fields of population and the standard of living and statistics he opened up subjects heretofore given little attention by economists. It was the kind of teaching that appealed to him most. It adapted itself to the small class of students of an inquiring type of mind, who responded to the opportunity to work independently. It has been said that Field was pre-eminently a teacher of graduate students. If this was so, it arose from the fact that the conditions under which graduate work was pursued at that time were more congenial to his methods than the undergraduate system.

Field's writings have been characterized elsewhere in this volume. The same qualities of originality and style which distinguish them marked his teaching. His lectures were never remarkable for the information imparted. Even the most assiduous scribe could boast only a scanty sheaf of notes. What one learned of fact one learned mainly outside the classroom. The lecture hour was reserved for Field's comments on the ideas and facts of which the listeners had already become aware. The student who came to him seeking for authoritative dogma and the student bent upon accumulating facts were equally disappointed. Field raised a great many questions, but one finds very few that he answered. Indeed, the most characteristic feature of his teaching lay in the questions which he asked, and the intellectual delight of being his student consisted in trying to find the answers and in so doing discovering

more questions. One of his colleagues has said of Field that he had a most *curious* mind, in both senses of that word—curious in its keen interest in all phenomena which came within its ken, and curious in the sense that he always found some unexpected angle or subtle twist which more matter-of-fact minds overlooked. Hence, those who sought a complete and connected discourse on population problems had to look elsewhere than in his lectures. But those who had the leisure to listen in the hope that they might find wisdom were not likely to be disappointed.

Outside the academic realm Field found a wide range for activity and enjoyment. In whatever avocation he chose to follow, he developed more than the average facility and skill. He was never the dilettante, although he retained the happy faculty of the intelligent amateur. He appreciated music and knew a great deal about it. He sang with more than ordinary talent. He entered into the tasks of the home and the play of the children with the delight of one who likes to mend the lock on the door and can take seriously the intricacies of an amateur printing press. To a list of recreations, not much different from those of most men, he added "a little gardening and a little carpentering."

In October, 1917, Field was called to serve the government as a special investigator for the Division of Statistics of the Council of National Defense in Washington. His task was to study American shipping requirements for the expeditionary forces overseas and for the maintenance of indispensable imports. In January, 1918, he was appointed a member of the American Shipping Mission and was sent to London to work in association with the Allied Maritime Transport C-

He was well equipped for the work by reason of his thorough understanding of statistical technique, and an unusual knowledge of things and places peculiarly useful in dealing with ships and commerce in all ports of the world. But the task in which he was called upon to participate was much more than a statistical job. It was a real venture in international co-operation. The reports which he wrote to his chief at this time are distinguished for their keen appraisal and sympathetic understanding of the various national attitudes, and the clear insight into the special problems of each of the countries involved. Both in London and at Paris, where he went later to serve with the American Peace Delegation, he responded warmly to the idea of international co-operation which the war necessitated, and which many hoped might be voluntarily continued when peace was restored. He continued to work toward this end, even while he watched with disappointment the growing tide of nationalistic feeling.

In April, 1919, Field returned to Chicago. Several opportunities to engage in literary work offered themselves; but in spite of their attraction for certain of his interests, he returned to his teaching at the University of Chicago in the autumn.

In the years before and following the war, Field had his share in the civic life of Chicago. He served on the council of the Municipal Voters' League, and was active in the work of the Chicago City Club, as well as a vice-president of the National Consumers' League. He was the president of the Illinois Birth Control League during its early years. This organization came into being in 1917, largely in response to the popular interest

prior to these sensational developments Field had been a student of the problems of birth control. His paper on the "Early Propaganda Movement in English Population Theory" had been read before the American Economic Association in 1910. It had brought to light a period of history almost forgotten and little explored. It proved to have more than an academic interest, for in the addresses which he was frequently asked to make in the next few years, the facts of early history furnished an impeccable and disarming approach to a subject heated by contemporary controversy. Under his leadership the League gained the support of an impressive number of leading medical men in Chicago. Several times it was necessary to oppose restrictive legislation at Springfield, and on these occasions Field was deputed to speak for the group. His ability to put the matter not only cogently but in such a way as to arouse no antagonism invariably resulted in quashing the bills in committee, on the several occasions on which they were presented.

Further work which he might have done was not permitted to come to fruition. In the summer of 1926, after an illness of several months, Field left the University for a year abroad with the intention of pursuing his researches into the neo-Malthusian movement in England. The signs of illness, however, returned. The winter was spent with the family in Switzerland in an effort—apparently successful—to regain his health. But after they reached England in the spring, it became evident that the gain was not enduring, [illegible] that the hope of recovery was slight. The famil[illegible]ed to Milton, and in Boston, on July 15, 1927, [illegible]me.

Much of Field's work, in the Ur[illegible]
where, escapes the recorder, for m[illegible]

anonymously. Among his colleagues his influence was felt, not as a man who initiated programs or organized public opinion, but as one who asked questions, suggested points of view, whose leadership was recognized by virtue of his intellectual and personal quality. In whatever activity he was engaged, whether it were defending the University against the attacks of an unsympathetic press or in guiding the early developments of the birth-control movement in Chicago, he met the situation in a temper at once conservative and courageous in the search for new social adjustments to new situations. As an undergraduate dean he is remembered for the fine personal interest he took in the individual students whose adviser he was. Although his name is associated with a variety of interests and activities, it was his teaching which always took first rank in Field's scheme of things. It would not be quite accurate to say that he gave it his best effort, for he was a person whose performance in any field, whether the task were great or small, was uniformly of a high order. He had, as well as the soundness of the New England tradition, the sensitiveness of the aesthete in regard to work well done, and he shared the aesthete's joy in the doing. Perhaps the quality which students, engulfed in the bustling life of a thriving, young university, most appreciated in him was a sense of leisure, a dignified lack of haste derived from his devotion to the timeless standards of excellence.

Field' tribution to the study of population prob-
lems characterized elsewhere in these pages.
For vish to test it for themselves, this volume
has d.

H. F. H.

CONTENTS

I

I. The Malthusian Controversy in England . .

II. Individuation and Parenthood . . . . . ɔped

III. The Early Propagandist Movement in English Population Theory 91

IV. The Progress of Eugenics 130

V. Eugenics and Demography 198

VI. The Beginnings of the Birth-Control Movement 206

VII. Publicity by Prosecution 215

VIII. Problems of Population after the War . . . 228

IX. Eugenic Worth and Economic Value . . . 236

X. Malthus as the Starting-Point for Recent Discussion of Population Theory 249

XI. Paradoxes of Population Problems 269

XII. Reflections on the Case for Birth-Control . 307

II

XIII. The Place of Economic Theory in Graduate Work 331

XIV. Some Advantages of the Logarithmic Scale in Statistical Diagrams 344

V. Outline of the Course on "The Standard of Living" 387

III

ɔoks and Pamphlets on Population in the Library of James Alfred Field 4ɛ

.ed

DEX . . . . . .

I

THE MALTHUSIAN CONTROVERSY IN ENGLAND[1]

[Briefly stated, the Malthusian theory as developed in the second and subsequent editions of the *Essay on the Principle of Population* held that], by virtue of the undiminishing impulse and power of reproduction, population, if unrestricted, would increase in geometrical ratio and, according to the experience of the American states, would double itself as often as every twenty-five years. Subsistence, in countries where cultivation is already developed, could not increase more than in an arithmetical ratio. Thus population tends constantly to increase beyond the limits of subsistence and is only restricted by preventive and positive checks, which are all resolvable into moral restraint, vice, and misery. Moral restraint is the sole means of escape from vice and misery; and any project to better society and alleviate want by means which weaken individual responsibility for the exercise of moral restraint serves only to aggravate the evils it seeks to cure.

The new theory of population was conceived in the

[1] [This essay, which is in substance a manuscript article bearing the foregoing title, was never published by Mr. Field. It was undertaken while he was an instructor in Harvard University (*see* Editor's Preface). Although it is dated 1906, reference to Mr. Field's diaries indicates that it was probably written somewhat later. It has been altered only to the extent necessary to insert additional material from the lecture notes. The sections so introduced appear in square brackets. The bibliographical references, which in the original manuscript were in abbreviated form, have been filled in and checked as far as was possible.—EDITOR.]

spirit of controversy, and about it a controversy was carried on for a generation, often with ability and sometimes with really productive results, but nearly always in a spirit of partisanship, for it touched quick issues. It was unfortunate that Malthus had first written in critical vein. The second edition of his essay—which might with some justice be described as the first edition of his treatise—had been much broadened in treatment; from subsequent editions particularly rankling passages of the second were omitted. The additions successively made to the book in reply to criticisms were always candid and dignified, often contrasting sharply with the abusive personalities in which his opponents felt licensed to indulge. And yet the argumentative contour that had been given in the beginning was never obliterated, and as a result the book was weakened as constructive scientific work. For the same reason it was more provocative than was necessary. It has, as Bonar observes,[2] "probably received more refutations than any other economical work whatsoever," and of these many are but tilts against windmills by adversaries whose antagonism was so aroused by certain of Malthus' phrases that they were either unable to understand his theory as a whole or unwilling to take time to investigate it before rushing their "refutation" into print. "Certainly," in the language of one biographer, "of all books that ever exercised anything like its influence, none has been so little read, or so frequently misunderstood, as Mr. Malthus's celebrated essay."[3]

As it had been political discussion which called the Malthusian theory forth, so the discussion of the theory

[2] Palgrave, *Dictionary of Political Economy* (London, 1896), II, 676.

[3] *Edinburgh Review*, LXIV (1837), 491.

was at first animated by political feeling. Not unnaturally, therefore, the shallower and noisier among the controversialists were inclined to embody their criticism in a crude *ad hominem* charge against Malthus himself and against his theory as something personal. They asserted that he sought to justify the ways of the established classes as a means to his own preferment. The clear lesson of the *Essay* had been that poverty and want are not to be removed by sweeping changes in institutions: that the responsibility for want, under the laws of nature and of God, rests with those who bring into the world beings for whom the world cannot afford support, and that, as a practical application of this principle, the poor must work out their own material salvation. It was easy and perhaps plausible to remark that this doctrine, with its suggestion that the humanitarian duties of the wealthy ceased with mere exhortation of the poor to bear themselves with prudence in their poverty, came discreetly from one who had taken orders and stood at the bottom of the ecclesiastical ladder. But clearer judgment repudiated this charge. Contemporaries and posterity uniformly, when partisan feeling has been overcome, have acknowledged Malthus' sincerity and benevolence of purpose.

With the more serious opponents of Malthus the conclusion to which the political bent of thought led in the early years of the controversy was in its essence precisely that conclusion of Godwin which Malthus had attempted to disprove: that social inequality was the source of the evils of population and that there was no cause to dread the immutable laws of nature so long as the changes so clearly called for were made in the faulty laws set up by men. This attitude, which long charac-

terized the socialistic theory of population, was maintained not only by the individualist reformer Godwin but by reformers of various stamp in the early part of the nineteenth century.[4] Thus Dr. Hall, discussing the Malthusian theory in the Appendix to the 1813 edition of his *Effects of Civilization on the People*, held that effective checks upon population "can only be applied in a state of equality of property."[5] Ten years later David Booth, Godwin's collaborator and defender, asserted that "while food can be procured by industry, the sole evil to be conquered is its unequal distribution."[6] Manning, writing of population in 1838 under the title *The Wrongs of Man Exemplified*, made it his main argument that the population problem was due to social and economic inequalities, without which there would be no necessity for the restraint of population through vice and misery. Imbued with such convictions some writers made specific attack on institutions in the concrete. "Human institutions are the real causes of all the misery with which we are surrounded," wrote Ravenstone;[7] and he then proceeded to detailed criticism of property, rent, taxes, capital, and the currency. But for the most incisive utterances one must turn to the free-thinking radicals and Richard Carlile. The pages of *The Black Dwarf*

[4] Cf. in addition to the passages cited in the text, John Weyland, *The Principles of Population and Production* (London, 1816), pp. 21, 162, etc.

[5] Charles Hall, *The Effects of Civilization on the People in European States, with an appendix containing Observations on the Principle Conclusion in Mr. Malthus's Essay on Population* (2d ed., London, 1813), p. 347.

[6] *A Letter to the Rev. T. R. Malthus, M.A., F.R.S. Being an Answer to the Criticism, on Mr. Godwin's Work on Population* (London, 1823), p. 63.

[7] Percy Ravenstone, *A Few Doubts as to the Correctness of Some Opinions Generally Entertained on the Subjects of Population and Political Economy* (London, 1821), p. 120.

in the years 1823 and 1824 were often occupied by correspondence and comment on measures proposed to restrict population, in which the journal editorially took the stand that a bad distribution of wealth was at the root of the evil: not lack of food but "*a despotic government*, and a *rapacious church establishment!*"[8] In fact, so eager was the editor to reform the government that he warmly opposed any palliative which by relieving the pressure of poverty might reduce the chances of political upheaval. It was in this sense that he wrote: ". . . . so far from excess of population being the cause of the evil it will be found to be the only effectual remedy."[9] The radical was again in evidence when Carlile said in his *Republican* in November of 1824: "I maintain . . . . *that bad government and a priesthood constitute the evil which at present degrade* [*sic*] *the people of this country*"; and when, as if speaking for the group of political writers upon population whose views it has been attempted here to present, he declared with the enthusiasm of his italics: "*I will never complain of too many human beings, whilst all these removeable evils exist.*"[10]

The inclination to reject the whole doctrine as unpalatable, which naturally enough marked the early stages of the controversy, could not continue to dominate the literature of the subject when once it had become clear that the new ideas had made a strong appeal to sober judgments. Thenceforward the "refutations" necessarily assumed more and more the form of detailed criticism of Malthus' premises, deductions, and proposals, and as a consequence the supporters of the the-

[8] *The Black Dwarf* (a London weekly publication, edited by J. T. Wooler), XI, 698.

[9] *Ibid.*, XI, 910. [10] *Republican*, X, 591.

ory, headed by Malthus himself, gave their attention more and more to its details. No body of thought which has the vitality long to survive is merely accepted or rejected once for all. So the Malthusian theory, subjected to criticism both destructive and constructive, has grown by shiftings of emphasis and changes of the proportion of its parts; and it is the relation of these internal changes to changes of external events which lends interest to its life-history.

The figure of the geometrical and arithmetical ratios has the distinction of having called forth a body of criticism more abundant and in many ways more futile than has been bestowed upon any other part of the work. For several reasons this fact is not hard to explain. Malthus was not happy in his imagery. To make a telling argumentative effect he used a mathematical form of expression, conscious that it was in some degree a figure of speech, but seemingly unconscious of the insidiousness of speech that is figurative in degree rather than in kind. It appears to have been characteristic of Malthus to think in the felt presence of broad truths but to fail to render them quite accurately in his writing. So he wrote as a painter might paint who mixed his colors by lamplight: he failed to see that the ideas which to his sight harmonized with what he believed to be true were not, apart from the coloring that his attitude lent to them, correct elements of thought proper to work with under all conditions. The geometrical and arithmetical ratios are a particularly good example of his misrepresentation of what is incontrovertible. The adverse critics attacked the faulty presentation only to discredit themselves by seeming to contest the

underlying truth. Yet there were peculiar temptations to criticize. The conspicuous announcement of the ratios at the opening of the argument made it seem that especial reliance was placed upon them in the proof that followed, and gave their fallacies an aggravated effect of importance. And the unlucky attempt to illustrate the abstract principle of increase by a description of experience in the United States gave the impression that the theory of the ratios was only an empirical generalization from one exceptional case and that this theory was therefore no more valid than the uncertain observations upon which it appeared to be founded. If, then, the critics could show the dependence of the Malthusian principle of population on this statement of the rates of increase for population and for subsistence, they had choice of two methods to demolish it: they might attempt to show either that the contrasted ratios were fallacious a priori, or that they were inconsistent with known fact.

The logical importance of the ratios in the Malthusian theory is disputed. "Some," wrote John Stuart Mill, "have achieved an easy victory over a passing remark of Mr. Malthus, hazarded chiefly by way of illustration, that the increase of food may perhaps be assumed to take place in an arithmetical ratio, while population increases in a geometrical: when every candid reader knows that Mr. Malthus laid no stress on this unlucky attempt to give numerical precision to things which do not admit of it, and every person capable of reasoning must see that it is wholly superfluous to his argument."[11] Mill is overpositive in this; but in his belief that the ratios were not all-important to the argument he is not

[11] *Principles of Political Economy* (London, 1848), Book II, chap. xi, par. 6.

alone. The *Quarterly Review*, in its comment on the fifth edition of the *Essay* in 1817, is interesting on this point; especially since with this article it changed front and swung into the line of the followers of Malthus, whom previously—impliedly because it misunderstood him—it had opposed. The statements about the ratios, thinks the *Review*, "are only made to be abandoned,"[12] so far as the course of argument is concerned. "For this reason we have always regretted the place which these calculations hold in the head and front of the essay."[13] On the other hand there is no lack of those who take another view. More recently Cannan[14] has denied as untrue the assertion of Mill that has just been quoted, and has insisted that because of faults in the conception of the ratios the Malthusian theory falls to the ground. The less matured opinion of the early controversy commonly led in different ways to the same conclusion. Malthus himself bent vigorously to the task of reinforcing his statement and illustration of the ratios. It was natural that he should defend at the point where the attack was hottest; but he was in the main too candid, and too true to his avowed desire to modify his argument whenever he should be shown to be in error, to support an assertion which he did not think material. Especially significant was it, then, when he came to write for the *Encyclopædia Britannica* supplement of 1824 an article on "Population," that, although he had the advantages of matured thought and opportunity completely to recast his mode of presentation, and although the anonymity of his article shielded him from charges of inconsistency,

[12] *Quarterly Review* (London), XVII (1817), 376.

[13] *Ibid.*, pp. 375–76.

[14] Edwin Cannan, *History of the Theories of Production and Distribution* (London, 1894), pp. 143–44.

he developed the theory of the ratios more carefully than ever before. The truth probably is that Malthus intended to found his argument on the plain fact that the abstract potentiality of human increase cannot permanently be realized, but not on the ratios by which he tried to illustrate the fact. The distinction, however, uncertain enough in his own mind, was seldom appreciated by his readers, and many were satisfied that refutation of the ratios was equivalent to annihilation of the theory in its entirety.

Those who were willing to regard the geometrical ratio as an abstract expression of potential increase had little cause to oppose it. [As a description of abstract theory it is correct, but it is a highly artificial concept.] Such objection as was made on purely theoretical grounds was express or implied criticism of the underlying assumption that the "passion between the sexes . . . . may always be considered . . . . as a given quantity,"[15] and that the power of human increase is undiminishing. [The argument runs in terms of a kind of physical predestination. If the geometric ratio is valid there must be a constant interval between generations, a constant fertility of the pair, and a constant proportion of the individuals in each generation reaching maturity. If either the physiological capacity or the instinctive desire for reproduction change, or if the external setting of institutional life alters the complex of instinct, physiology, psychology, and habit which make up the reproductive process the "passion between the sexes" in the Malthusian connotation is not a constant but a variable factor, varying as a function of time and a function of many external conditions.] Malthus granted that the "fecundity of the human species is, in some respects,

[15] Second ed., 1803, p. 347.

a distinct consideration from the passion between the sexes,"[16] but he thought that fecundity would not admit of any very considerable diminution,[17] and his geometrical ratio obviously assumes no diminution at all. [The central instinct leading to reproduction is, in fact, extraordinarily conventionalized. For even the most sensuous persons reproduction is not the expression of sex passion alone, but of many interrelated influences, which inhibit or strengthen the desire for the satisfaction of sex. A study of observable reproduction does not help greatly in determining which of these sets of causes has been at work to produce changes in the rate of increase. But whatever may be the cause, the diminution of passion, the inhibitions imposed by the social system, or the voluntary control of births, the reproductive motive may be so reduced that the passion between the sexes, as Malthus used the term, will not be constant, and hence, the problem of population in the Malthusian sense disappears.]

Most of those who attacked the geometrical ratio confused the operation of the checks with decreased physiological power of multiplication, and many rested their faith in sentiment rather than reason; but among the number were not a few who contributed positive criticism of some scientific interest. Perhaps the most outstanding representatives of this criticism were Thomas Doubleday,[18] with his "law" of the defecundating effect of increased nutrition, and Herbert Spencer,[19] with his

[16] *Ibid.*, p. 491. [17] *Ibid.*

[18] *The True Law of Population Shown To Be Connected with the Food of the People* (London, 1853).

[19] "The Theory of Population, deduced from the General Law of Animal Fertility," *Westminster Review*, Vol. XVII (April, 1852).

brilliant hypothesis of the antagonism between individuation and genesis. [Sadler[20] and others challenged the geometrical ratio along the same line, holding that in man as well as in the lower forms of life there is a biological automatism at work, by which the excessive degree of reproductive interest of which Malthus complained declines as the life of the individual members of the species becomes longer and more assured.] In other cases, writers who were not favorable to the Malthusian theory, and in general rejected the arithmetical ratio in particular, freely granted the correctness of the geometrical ratio. Cannan has done this,[21] and Joseph Lowe[22] readily admits, "as far as regards physical considerations, ... both an ability and a tendency in mankind to double their numbers in every generation."

[Even though, as logicians, critics might grant the academic validity of the geometrical ratio, as statisticians, they were hot in attack upon the figures with which Malthus defended his argument.]

So many critics of Malthus set themselves to contesting the American evidence of a doubling of population in twenty-five years that it would be a waste of time to enumerate them. Godwin's *Enquiry Concerning the Power of Increase in the Numbers of Mankind*,[23] with the dissertation on the ratios by David Booth which it includes, and the considerable discussion it provoked, is a conspicuous example of this criticism. Another laborious

[20] Michael Thomas Sadler, *The Law of Population; A Treatise in Six Books; in Disproof of the Superfecundity of Human Beings, and Developing the Real Principle of Their Increase* (London, 1830).

[21] *Op. cit.*, p. 139.

[22] *The Present State of England in Regard to Agriculture, Trade and Finance* (2d ed.; London, 1823), p. 216.

[23] London, 1820.

investigation of American conditions was made by Sadler, whose fate it was to draw upon himself the splendid derision of Macaulay in two essays in the *Edinburgh Review*.[24] But though author after author entered this field, weighed the evidence of natural increase against what evidence ingenuity could adduce of the increase by immigration, and estimated the comparative authoritativeness of the United States censuses and the favorite compilation of Dr. Seybert, the result was nugatory. At best, all that could be proven was that there was yet no clear example of an actual doubling in a period of twenty-five years. The theoretical possibility was not disproved; and even had it been shown that the geometrical rate of human increase was less rapid than Malthus supposed, the effect would have been merely to prove that the evils of overpopulation become operative more gradually. Their imminence would still be a vital problem. Misdirection of comment had followed from Malthus' misguided practical exemplification of his theoretical assumption—an exemplification the more unhappy because America, where human increase approached the geometrical rate, was, as a new country to civilization, a bad example of the difficulties in increasing subsistence encountered on more closely cultivated soils.

If theoretical criticism was concerned more with the arithmetical than with the geometrical ratio, the reverse was true of criticism which judged the validity of the rates of increase simply by their correspondence with observed facts. This could hardly have been otherwise: the arithmetical ratio was empirical; the geometrical, a priori; and in the nature of things the course of events is

[24] LI (July, 1830), 297–32; LII (January, 1831), 504–29.

not easily reduced to an abstract formula, nor are a priori formulae often found working themselves out in flesh and blood. [The proposition that food increases at an arithmetical ratio, although assumed to state a fact, was not deduced from a careful survey of agricultural production, but was dictated by literary necessity. Malthus came at the arithmetical ratio not as an economist but as a Ninth Wrangler. Had he been either more or less of a mathematician, he would not have used it. Having stated human increase in terms of the geometrical ratio, he looked for some inferior ratio to express agricultural increase. The arithmetical ratio furnished this inferior progression.]

Repeatedly it has been argued that Malthus erred in giving the impression that the two ratios are co-ordinate, when in fact they are not. The geometrical ratio is an expression of abstract potentiality: the arithmetical ratio is an expression of concrete facts. The idea of the latter assumes all the practical limitations which the idea of the former excludes. So it was contended that the argument that population tended to outstrip food was vitiated because it was founded in a comparison of rates of increase not properly comparable. Simon Gray, in his *Happiness of States*, called attention to the high capacity for increase of the means of human subsistence if no checks to this increase are operative.[25] De Quincey, though a supporter of Malthus, took occasion to raise this objection to Malthus' logic. Grain, said he, potentially increases geometrically and at a more rapid

[25] Simon Gray, *Happiness of States: or, An Inquiry Concerning Population, the Modes of Subsisting and Employing it, and the Effects of all on Human Happiness: in which is developed the new or productive system of Statistics* (London, 1815), p. 357.

rate than man.[26] But De Quincey, while protesting the inaccuracy of the comparison, recognized that it did not invalidate Malthus' general thought.[27] This admission, however, was not always made. Hazlitt, who fell to disputing with De Quincey[28] the priority in observing that wheat has power of geometrical increase, made claim to have set forth essentially the same idea as early as 1807 in his anonymous *Reply to Malthus*, a thoroughly hostile effusion. And at the middle of the century George Rickards developed this same logical criticism very fully and regarded it as fundamental.[29] Cairnes, in his turn, took great pains to criticize Rickards' criticism and to defend the accuracy and propriety of the Malthusian form of the argument.[30] Whatever the merits of the disputants,[31] it would seem clear that Malthus was not unaware of the difference of the assumptions on which the two ratios rested. Expressly, in his *Encyclopædia Britannica* article, he notes that food-animals and food-plants would, if unrestrained, increase geometrically, but that their potential increase is restricted by the limitation of land suited to them. And in the *Essay* of 1803,[32] before criticism had been aimed

[26] Thomas De Quincey, "Notes from the Pocket Book of a Late Opium-Eater, No. II, Malthus," *London Magazine*, VIII (1823), 350.

[27] *Ibid*, p. 352. [28] *London Magazine*, VIII, 459–60.

[29] *Population and Capital, Being a Course of Lectures Delivered before the University of Oxford in 1853–4* (London, 1854), pp. 68 ff.

[30] John Elliot Cairnes, *The Character and Logical Method of Political Economy* (1857), Lecture VII.

[31] To those already cited may be added the anonymous author of *Observations on the Law of Population; being an attempt to trace its effects from the conflicting theories of Malthus and Sadler. By the author of Reflections on the present state of British India* (London, 1832), p. 9.

[32] Pp. 2–5.

against him at this point, the thought, though less clear, is similar. For he approaches the formulation of the ratios by observing "the constant tendency in all animated life to increase beyond the nourishment prepared for it"; he cites Franklin's discussion of the prolific nature both of animals and plants and his use of the plant fennel as a specific example; he recognizes that alike "through the animal and vegetable kingdoms Nature has scattered the seeds of life abroad with the most profuse and liberal hand"; and he repeatedly states that lack of room prevents the realization of the increase otherwise possible. He has an inkling of the law of diminishing returns from land.[33] It is true, as Cannan observes,[34] that this law, subsequently enunciated, is the truth at which Malthus, in his arithmetical ratio, was groping; but Cannan goes much too far in denying to Malthus a general sense of the principle which he did not contrive adequately to formulate. Perhaps Cannan is biased, from a desire to emphasize by contrast the manner of the origin of the law, as he relates it. At least his appraisal of the arithmetical ratio appears hardly judicious. Once again the history of criticism of a phase of the Malthusian theory is largely a narrative of imperfect understanding of an original imperfect expression.

[Down to the present day Malthus' treatment of the agricultural situation has been much debated. Those who wish to establish his position as a figure of the first importance in modern economic thinking give him cred-

[33] Malthus, *Essay* (1803), *passim*. See Bonar, in Palgrave's *Dictionary of Political Economy* (London, 1896); II, 672; also Frank Fetter, *Yale Review* VII (1898), 157–58.

[34] *Op. cit.*, p. 144.

it for all but stating the law of diminishing returns. Others, with the fortunes of other heroes to promote, deny to Malthus any fundamental apprehension of the theory. Of the three angles to the problem of diminishing returns—the historical taking up of poorer land, the exhaustion of the soil, and the failure of added doses of other factors applied to land to increase the output proportionately—Malthus seems to be consciously aware of only the first two. These would account for everything that he says about diminishing addition to the produce. In his mind the resort to inferior soils is the dominating idea; exhaustion of older lands comes second. The third aspect of the idea of diminishing returns, that of the lack of proportionality in the returns to added applications of labor and capital, is there only by implication. Malthus probably did not appreciate the significance of this idea, although he used it to good advantage. When John Stuart Mill came to give the classical definition of the Malthusian argument, he was able merely to insert a full statement of diminishing returns in place of the arithmetical ratio without otherwise revising the line of reasoning. Malthus was, indeed, arguing in the spirit, if not the direct language, of diminishing returns.

Malthus wrote at the beginning of the nineteenth century, and later writers have thought to score against him because he did not allow sufficiently for the increase in production which might come about through improvements in agricultural processes. He seems to have envisaged a future in which increases in subsistence come about irregularly, sometimes adding large and sometimes small increments to the total produce, but in the long run, once the land was taken up, adding

increments at a decreasing rate of increase. It is true that he fails to give sufficient attention to the possibilities of increased product through improved technology. His thinking is dominated by the problems of the country gentleman of 1750 rather than by the new industrial system.]

Discussion of the ratios, in themselves and separately, is not easily distinguished from discussion of their joint resultant, the alleged tendency of population to increase more rapidly than the means of subsistence. Especially the study of actual conditions, as in America, caused writers to impugn simultaneously and indiscriminately the premises and the conclusion in this argument of disproportionate increase. Consequently it now becomes requisite to investigate the term "tendency"; to seek to discover what it meant, for Malthus and for his adversaries; and, when this element of confusion has been so far as possible eliminated, to consider the relation of population to subsistence, as it may be predicted and as it has been observed.

The double meaning latent in Malthus' use of the word "tendency" was early discovered. It was clearly pointed out, after the appearance of Godwin's *Enquiry*, by an able anonymous writer in the *New Monthly Magazine*.[35] "The ambiguity," he writes, "arises from the use of the word 'tendency,' " which in the case in question may mean either "that man *does* increase, in point of fact, more rapidly than his subsistence" or "that he does not, in fact, ... but *would do so* if he were not prevented by some check. From the general scope of Mr. Malthus's book, there can be little doubt that the second of these meanings was almost always

[35] I (1821), 195 ff.

present to his mind, when he used this proposition; but it cannot be denied that there is a great deal of unsteadiness throughout his writings on this subject."[36] To this usage the author objects. "It would justify us in saying, that man had a tendency to be whatever he would become, if directed in his conduct by *any one* propensity in his nature, to the exclusion of the rest."[37] Perhaps in reference to such comment Malthus, in his *Encyclopædia Britannica* article of 1824,[38] defends in insignificant fashion the propriety of speaking of a tendency to increase even though in actual fact a corresponding increase is not observed. Already in the Appendix to the 1817 edition of the *Essay*, in considering the arguments of Weyland, Malthus had pretty clearly shown that he used the word tendency to indicate a propensity, however it might be counteracted and to external appearance nullified. A still more direct statement of this position appears in the published correspondence between Malthus and Senior, appended to N. W. Senior's *Two Lectures on Population*.[39] Yet even here Malthus had not made it clear that he confined himself to this usage, and the discussion went on. In the *Observations on the Law of Population* it is taken up at some length; and the author remarks that there are those by whom "the word 'tendency' is considered sufficient to render the whole proposition ambiguous and obscure."[40] But the classic exposition of the double meaning of the word was given by Archbishop Whately in the ninth of

[36] *Ibid.*, p. 198.

[37] *Ibid.*, p. 204. [38] VI, 330.

[39] *Two Lectures on Population, Delivered before the University of Oxford in Easter Term, 1828* (London, 1829).

[40] *Op. cit.*, p. 6.

his *Lectures on Political Economy*,[41] and has been approvingly quoted from him by Senior[42] and Rickards.[43] "Now," says the latter at the conclusion of the quotation, "if I am asked in which of the two senses . . . . the word 'tendency' is used by Mr. Malthus in reference to population and to subsistence, I answer, after a careful perusal of his entire essay—in *both*." In this Rickards is right. Partly Malthus seems by the elasticity of the word to have drawn conclusions which the premises did not in strictness warrant; partly he seems simply to have felt that the constant propensity would at some times or in some degree necessarily find realization in fact. To Senior he wrote: ". . . . when you state as a fact, that food *has* generally increased faster than population, I am unable to go along with you"; and he added that in all cases where the knowledge of an old civilization has been "applied to the comparatively unoccupied land of a new one," and "where the food has once been abundant, an actual increase of population faster than food is not only probable, but absolutely certain."[44] Again, though one cannot with justice make an author responsible for all the unguarded statements of his disciples, it is probable that McCulloch was expounding the Malthusian doctrine as he conceived it when he wrote of "the principle, *that the power of increase in the human species must always, in the long run, prove an overmatch for the increase in the means of subsistence*."[45] Clearly, "tendency" was a shifty expression.

[41] Third ed. (London, 1847), pp. 230–31.

[42] *Political Economy* (reprint of 1850; London), p. 47.

[43] *Op. cit.*, p. 67. [44] Senior, *Two Lectures on Population*, pp. 66–67.

[45] Note to his edition of *The Wealth of Nations* (1828), IV, 133, as cited by Senior, *op. cit.*, p. 40.

The attention that it received made its shiftiness apparent but hardly remedied it. The correspondence between Malthus and Senior which ended "in mutual agreement"[46] amounted merely to a recognition of a difference. The critics posted a sign of danger and moved on.

[It may justly be argued that the use of the geometrical and the arithmetical ratios in the Malthusian juxtaposition involves a logical fallacy, but it none the less admirably stated the problem of population pressure. The word tendency carries the idea of menace, and it was this idea that Malthus wished most to impress upon his readers. The critics, while clarifying the lapse of logic, have done so at the cost of abstracting man out of the problem. Malthus, by using the two ratios, was stating the problem of numbers as it appears from the viewpoint of mankind. He recognized that plants and animals have large capacities for increase and are subject to checks, as is man, but it was not the problem of overpopulation of wheat or cattle which interested him. Had he been writing the population dilemma of the cow and the cowslip, he would have made his point by fixing attention on the potential powers of increase of the former and would have analyzed the checks which prevented their full consummation in terms of the deficiency of the latter.

It may be noted, also, that in stating the theory of the tendency of population to outrun subsistence Malthus gave inadequate weight to the idea of a standard of living as a variable of co-ordinate importance with the two ratios. The omission is an important one, although not fatal to the larger validity of the Malthusian

[46] Senior, *op. cit.*, p. 87.

doctrine. To his mind, subsistence had a simple and evident meaning, innocent of the paradoxical complications which later writers struggling with the problems of a living wage and a minimum standard of living have discovered.]

It was the observed course of events, however, rather than the meanings of a term, that received the attention of most of the controversial writers.

The excessive increase of population relatively to subsistence was the doctrine of Malthus and those who are to be rated as his followers—orthodox or fanatical as the case may be. The manner of interpreting the views of this school has already been touched upon, and some expressions of the views themselves have been revealed in the process. To maintain that in fact and characteristically population exceeds the numbers for which the earth can afford the means of support is an obvious absurdity, and the assumption that Malthus did maintain that such was the case was one of the salient blunders of early critics. But the Malthusians did believe that population was overtaking subsistence in places where subsistence had been abundant, and pressing hard upon it elsewhere. Perhaps they believed that by averaging these conditions they might say that the relation of population to subsistence was becoming less favorable for the world as a whole. It is hard to tell positively what is believed by writers who do little more than echo an earlier declaration of belief. Of the multitudes who accepted Malthus' theory practically without question few tried to formulate their opinions of it; some unwittingly caricatured it, and some gave it hardly more than repetition in a form petrified and therefore obsolescent. The

gradual modification of conservative opinion as to the relation of increasing population and subsistence has largely been the indirect result of study at other points in the theory. These are some of the reasons why more authorities are not here cited. James Mill and McCulloch may be mentioned. One author, however, deserves special comment, as representing a new explanation of the old thought: John Stuart Mill expounds a modified Malthusian theory in which the arithmetical ratio as a logical premise in the argument has been replaced by a clear statement of the law of diminishing returns from land. And though he recognizes the effect of improved methods of production in neutralizing the operation of the law it is clear that he thinks that human conditions have been kept tolerable only by conduct prompted by the menace of overpopulation.[47]

A second turn of thought is shown negatively in the denial of the excessive increase of population and positively in the assertion that population and subsistence advance at equal rates. This positive thought is often essentially the doctrine preached by Luther, that God will provide for all whom he creates. "Population," says Simon Gray in *The Happiness of States*, "whatever be the ratio of its increase, carries in itself the means of finding sufficient food. Its increase supplies it with an additional number of hands."[48] John Weyland lays down as the first of his "fundamental propositions" that "Population has a *natural* tendency to keep *within the powers* of the soil to afford it subsistence in every gradation through which society passes."[49] Ravenstone con-

[47] *Principles*, Book I. chap. xiii, par. 2. [48] P. 439.

[49] *The Principles of Population and Production, as They Are Affected by the Progress of Society; with a View to Moral and Political Consequences* (London, 1816), p. 21.

ceives that "Every man brings into the world the means of procuring his own sustenance."[50] *The Black Dwarf* argues that the course of history has shown sufficient power of increasing the necessities of life, and adds: "If our population regulators had been the directors, the first couple would have left only a pair or two behind them, lest they should have perished for want of food."[51]

Subsistence naturally increases even more rapidly than population, in the opinion of a third group of authors. The arguments adduced to show the adequacy of subsistence can easily be stretched to imply its abundance. Luther's doctrine, with a slight, insinuating variation, suggests that with every mouth which enters the world come two hands. It is not surprising to find that in their more ardent moments some authors already quoted as denying excess of numbers went farther and asserted excess of the means of support. "The increase of population has," according to Gray, "a uniform tendency to increase income and wealth; .... according to a new and enlarged proportion, augmenting somewhat as the number of circulators increases."[52] Similarly wrote Ravenstone: "Every addition to the numbers of a people extends in more than a proportionate degree the limits of its means of subsistence."[53] Alison, too, took a position which might lead to his classification with either group, and believed that he had proved that "the real relation between man and the subsistence which flows from his toil is, that he can *do*

[50] *Op. cit.*, p. 23. [51] XII (February 4, 1824), 145.

[52] George Purves (pseudonym for Simon Gray), *Gray versus Malthus, The Principles of Population and Production Investigated; etc.* (London, 1818), p. 11.

[53] *Op. cit.*, p. 175.

much more than maintain himself by these exertions."[54] Thus far it does not appear that he has shown that productivity increases as time goes on; yet of this he seemed convinced, "from the extremely slow pace at which population can, even in the most favorable circumstances, increase, compared to the much more rapid rate at which the produce of the soil can be multiplied by human labour."[55] There is however a proviso: "Supposing always that the earth, accessible to the cultivators, will admit of an increase of subsistence." Alison's position thus becomes at least uncertain; but there is no lack of other writers who should be cited here. Lowe[56] is a professed follower of Gray. Poullett Scrope's *Principles of Political Economy*[57] contains a crude and sentimental attack upon the Malthusian doctrine, supported by the assertion that productivity increases more than population. This uncompromising attitude is criticized by Senior; yet Senior inclines to a belief not utterly different. "The increase, in many respects, of the productive powers of labour, must," he believes, "enable increased comforts to be enjoyed by increased numbers, and as it is the more beneficial, so it appears . . . . to be the more natural course of events, that increased comfort should not only accompany, but rather precede, increase of numbers."[58] Laing, the younger, in his prize essay on *National Distress* sounds the note once more when he concludes "that instead of an irresistible tendency on the part of population to outstrip the supply of food,

[54] Archibald Alison, *The Principles of Population and Their Connection with Human Happiness* (London, 1840), I, 35.

[55] *Ibid.*, I, 36.

[56] *Op. cit.*, p. 210.

[57] London, 1833, chap. xi.

[58] *Two Lectures on Population*, p. 35.

in point of fact the tendency has been the other way."[59] Hickson[60] mentions the increased productive power of increased populations. Among a large class of socialistic writers, in England and elsewhere, this argument has become familiar. And at Rickards'[61] hands the same idea, that "as society advances, so does production more and more run ahead of population,"—explained as the simple result of "that higher ratio of fecundity in the productions of the earth than in man" and of the fact "that one pair of hands are able always, to produce much more than one individual can consume,"—is clothed in yet another guise and in a complacent and grandiose fashion set forth as an expression of the solicitude of Providence for its most exalted creature, man.

[At this point the checks to population growth demand attention. Malthus classified them under the two categories now so familiar: the twofold classification of positive and preventive checks; and the threefold classification of vice, misery, and moral restraint.

The preventive checks forestall increase in the number of births: the positive checks cause increase in the number of deaths. The positive checks restore a balance which has been temporarily upset: the preventive checks prevent the upsetting of the balance. The positive checks trim population to fit subsistence. The preventive checks enable man to determine his standard of

[59] Samuel Laing, *National Distress; its causes and remedies* (London, 1844), p. 73.

[60] W. E. Hickson, *An Essay on the Principle of Population* (London, [1853?]), pp. 5–6.

[61] *Op. cit.*, p. 104.

living. They enable him to get on top of the situation prescribed by the other checks, and positively to control his economic status. In Malthus' way of thinking the positive checks were chiefly effective among the great mass of the poor; more generally the well-to-do invoked the protection of the preventive checks.]

So far, the distinction is fairly easy, and the two checks together are comprehensive. But there is another division of checks, according to the form in which they appear rather than the way in which they manifest their results—the famous threefold division into moral restraint, vice, and misery. To harmonize these two classifications has not been found to be altogether easy, despite the proffered solution given by Malthus himself. Certainly the term "positive" does not distinguish nicely between the cutting-off of numbers already born and the prevention of births. Infanticide, for instance, is both a positive and preventive check. It operates through death; and by cutting off individuals before they have reached the reproductive age it is preventive of further increase. The word is unfortunate also in that it carries an implication of intention. Quite contrary to its true meaning, which is to describe the impersonal workings of nature, it suggests a deliberate and conscious policy. Twiss, apparently with the idea of removing the stigma attaching to forms of the preventive check, made the radical proposal of classifying all moral evil as a positive check.[62] The commentator "On the Theories of Malthus and Godwin" indicated pretty plainly the obscurity of classification, though he did

[62] Travers Twiss, *On Certain Tests of a Thriving Population* (London, 1845), p. 23.

little to remove it, beyond substituting the term "corrective" for Malthus' positive check.[63] Twiss similarly proposed "diminutive."[64] "Repressive" was another term suggested.[65] It seems to have been generally felt that the word "positive" had little to commend it. But for all its faults the Malthusian scheme of classification persists.

[The fact of the positive checks, apart from their definition, is almost too obvious to arouse denial. The fact of death through want is likewise incontrovertible. The positive checks work out through death but are not synonymous with death. They refer rather to excessive mortality, the death which comes about because of the need of balancing population and subsistence. Malthus was conscious of the death factor in population only in so far as it entered into the maintenance of this equilibrium. Failure to distinguish death as a normal phenomenon of life from its rôle of check to surplus numbers led some writers to maintain that there were no positive checks. Thus Ravenstone dismissed them as the "unavoidable accidents of our nature."[66] He failed] to recognize that a new term in a new theory could endow with new significance a fact of universal experience.

[The new term for old evils suggested to some that the checks were a new contrivance. Malthus was alleged to have invented misery and death from vice, famine, and war as a neat way out of the situation created by overpopulation.] Among those who took this

[63] *New Monthly Magazine*, I (1821), p. 199.

[64] *Op. cit.*, p. 19.

[65] Rickards, *op. cit.*, p. 180.

[66] *Op. cit.*, p. 191.

stand were Godwin,[67] Hazlitt,[68] and Charles Hall.[69] Hazlitt was writing trivially and contemptuously, but Hall was temperate. As for Godwin, it was in the midst of a eulogy of Malthus almost unqualified and strangely in contrast with his later writings that he spoke of "misery and vice, the checks pleaded for in the Essay on Population. . . . ."[70] James Grahame gave especially direct utterance to the same belief when he wrote that Malthus regards "the vices and follies of human nature, and their various products, famine, disease and war, as benevolent remedies, by which nature has enabled human beings to correct the disorders that would arise from . . . . redundance of population. . . . ."[71] It was this statement to which Malthus replied in the 1817 edition of the *Essay*, remarking that the imputation "has been continually repeated in various quarters for fourteen years." The reply set forth the absurdity of asserting "that famine is a benevolent remedy for want of food," and further maintained that the alleged opinion was "no where to be found in the Essay, nor legitimately to be inferred from any part of it."[72] Yet, legitimately or not, according to Malthus' own testimony, it had been inferred from it repeatedly—prob-

[67] *Thoughts occassioned by the perusal of Dr. Parr's Spital Sermon, preached at Christ Church, April 15, 1800; being a reply to the attacks of Dr. Parr, Mr. Mackentosch, the Author of An Essay on Population, and Others* (London, 1801).

[68] *A Reply to the Essay on Population, by the Rev. T. R. Malthus* (London, 1807), pp. 141–44.

[69] *Op. cit.*, pp. 326, 345.

[70] *Op. cit.*, p. 64.

[71] *An Inquiry into the Principle of Population: Including an Exposition of the Causes and the Advantages of a Tendency to Exuberance of Numbers in Society* (London, 1816), pp. 100–101.

[72] III, 390–91.

ably from that part of it that counseled the manner of action in charity and the provision for the poor. For in a world which seemed as yet by no means wholly claimed for the support of mankind, Malthus insisted on the general principle that the positive checks should not be tempered to those whom they threatened. One end to be gained was the strong motive to practice the preventive check of moral restraint. If, however, prudential restraint, the great aim of Malthus' work, did not result, or if the practice of restraint was classed as equal misery with starvation, there still remained a justification of his policy; so long as the incidence of the positive checks was not shifted by unwise poor relief or made general by such schemes of equality as he wrote to oppose, the misery of a few protected the many from fatal want. In the language of a more recent period: the positive checks act principally on a marginal class, and the other classes are safeguarded in their degree of economic elevation above the margin.

[To make the meaning vivid, society may be pictured as a conical island shelving down to the sea. Some persons are high and dry in the favored positions at the summit; others, while safe from inundation, are successively less well off, while at the base of the cone huddled along the shore are the masses of the poor who are constantly being threatened, if not actually washed away, by the waves. Charity is a well-meant effort to improve the condition of those living at the water's edge, but to give them this better chance involves leveling down the higher lands until finally the precarious existence of the dwellers along the margin is extended to a much larger number and, perchance, the whole island is threatened by submergence. To avoid

such a catastrophe, Malthus said, it is necessary to isolate the marginal group, to put them strictly on their own resources, so that it will be unmistakable to them that their existence depends on their own actions.

Malthus' recommendation was almost equivalent to designating certain persons as those who should die from the positive checks. The attitude of cutting the poor off from the sympathetic ministrations of the more fortunate groups in society and putting them solely on their own responsibility appeared to many people to be unjust. It seemed to be intentionally adding the burden of misery and vice to their already unfortunate lot. Malthus' reply to this charge of inhumanity was that though the suffering might seem to be deliberately imposed, it was not inevitable. For those who would heed the precepts of his doctrine of moral restraint, there was a possibility of getting out of this lowest class, although Malthus entertained disturbing doubts as to how many of the poor would be willing to accept the responsibility and improve their position by prudent conduct. Among those of a softer temper the analysis frequently received thoughtful consideration.] Even Grahame had a glimmering of the idea that benefit came from limited action of the positive checks, for he wrote:

> Redundance of population, it is said, is constantly impending over the world; but the positive check of vice, war, pestilence, and famine, generated by its approach, contributes to keep its worst evils at a distance; and by seasonably thinning the rows of mankind, prevents the universal confusion and destruction of human society.[73]

And for Hall,

> The question at issue is, Whether an evil, that may invade mankind at a distant period, in certain possible contingencies, and in different degrees of severity, and which may then be much miti-

[73] *Op. cit.*, p. 22.

gated, and even wholly removed, can be justly brought on the present generation in its utmost degree of force and malignity, in order to exempt a few from it. . . . .[74]

More concisely a later writer expresses the Malthusian position in these words:

Some must suffer for all. Derange not this order of things; you will only make the suffering universal, and it will then not except even those whose lot you have unwisely sought to mend.[75]

It was not, then, that Malthus was delighted with the forms of suffering which the positive check assumed. Rather, he found satisfaction in a social order which restricted the incidence of those checks. But Malthus is not secure in his theoretical position at this point. Cannan, still harping on the fatal lack of a clear conception of the law of diminishing returns, thinks that Malthus was led to urge the immediate necessity of the operation of checks to population by a blindly literal belief in the applicability of the arithmetical ratio to all circumstances.[76] Malthus might parry this thrust by replying that he was speaking for people living in densely settled communities; and the discussion of emigration which shortly follows the passage chosen by Cannan for criticism suggests that he would have done so. But in so doing he would seem to throw the blame for the immediate evils of population on the human institutions which he sought to exculpate—on the social system that made men huddle in long-tilled regions when so much of the resources of the world remained to be utilized. It is an unlucky distinction that essays to separate human institutions from nature; but if we

[74] *Op. cit.*, pp. 343–44.

[75] *An Essay on Populousness* (London, 1838), p. 3; reprinted in *The Book of Murder* by Marcus, p. 36.

[76] *Op. cit.*, pp. 135–138.

follow the distinction as Malthus made it, we must be impressed with the fact that the unspoiled resources of nature would not have been in the same degree inaccessible if human institutions had been more resolutely and more wisely shaped for their conquest, and if those at ease as well as those already in want had given themselves heartily to diffusing overcrowded populations into the sparsely settled regions of the world. Too eager insistence on the pressing, present need of checking population put Malthus in a theoretical dilemma. But it is none the less true, so far as can be foreseen, that redistribution of population could not long cope with its unrestrained increase. As an ultimate solution of the problem emigration is futile and the operation of the checks is a paramount necessity.

[Had Malthus, indeed, put himself in the position of advocating the positive checks? He had said that in society they fell upon the poor and that they ought to fall there. To him the principle of population was imbedded deep in the constitution of man. It was like the weevil in the bean, the sprite in the heart of man which accounts for his behavior. Nature had made man so, and nature was to blame for the predicament. It was only when he came to adjudicate the matter and to plan a way to circumvent the craftiness of nature that he dealt with social institutions. Then he said that those who have built up defenses against want should keep them sound and others should follow their example. Thus he made want the result of both nature and the existing institutions.

Although Malthus looked upon the positive checks of war, pestilence, and famine as nature's inevitable rebuke to man's excess of passion, it is quite possible

to conceive of the use of the death factor as a gratuitous method for dealing with a surplus population. This is, however, at best an uncertain ally in the prosecution of a deliberate policy. Pestilence is not easily kept within the bounds prescribed for it. Famine is more amenable to control, but it is likely to carry off the most important economic producers, and once instituted, may cause more death than is necessary to restore the desired equilibrium. It might, if regulated in accordance with a selective principle, as that applied in scientific farming, weed out the undesirables. Such a policy is not unknown to communities in which the unfit and superannuated are exposed to starvation. Of all the forms which the positive check may take, infanticide is the one which is most easily and most frequently appropriated for the purposes of conscious human direction. Evidence exists of the practice of infanticide, both fetal and natal, in a considerable scale in historical societies and in our own time. Malthus' treatment of the positive checks set people of his day to talking about this method of population control.] There were some who seemed to regard the positive check in the form of infanticide as a benevolent remedy. More strictly they may be said to have wished to control the mode of death, preferring an act which was hardly more than the nullification of a birth to the lingering death of a life of misery. So Godwin[77] thought infanticide better than the misery and vice which Malthus insisted upon. Hall believed the exposure of children was preferable to such want as prevailed in Europe.[78] Practically the opinion of Godwin is repeated by the author of the pamphlet "On the Means of Retaining the Population within any

[77] *Thoughts, etc.*, p. 65. [78] *Op. cit.*, p. 335.

Required Limits."[79] These authors, however, plainly were but trying to show their horror of the positive check in its usual signification. None of them took an affirmative stand in favor of infanticide. That rôle was reserved for the anonymous author of *An Essay on Populousness*, an extraordinary tract privately published at London in 1838, in which is advanced a proposal for solving the problem of population by the "painless extinction" of infants in carbonic acid gas.[80] Another tract of the same year, by "Marcus," *On the Possibility of Limiting Populousness*, which hinted at much the same practice, though obscurely,[81] was reprinted in 1839 by the Chartists, who arraigned it as "The Book of Murder: a Vade-Mecum for the Commissioners and Guardians of the New Poor Law." The episode shows how seriously the population theory was being taken at the time. It also involves the advocacy of a check to population which lies midway between the conventional positive and preventive checks—a check positive in its nature but voluntary in its exercise and preventive in its purpose.

[In the first flush of enthusiasm over the prospects opened up by the contemplation of the promises of eugenics, not a few recommended the deliberate utilization of the death factor as an element in a reasoned population program. Aroused by the appeal of the eugenic ideal, McKim[82] concludes that the progress of

[79] *The Pamphleteer*, XVI (London, 1820).

[80] The kind of gas to be used is a matter of inference, as it is not expressly stated.

[81] P. 14.

[82] A. Duncan McKim, *Heredity and Human Progress* (New York and London, 1900), p. 188.

society demands that the unfit be put to death by the beneficent forgetfulness of the lethal chamber. More recently proposals involving the voluntary resort to death have tended to drop out of population programs.

The positive check thus subjected to human control and directed to consciously chosen ends, especially in the case of infanticide, takes on the nature of the preventive check. The two cease to be definitely separated categories, but come to merge into each other by such gradual transition that it is difficult to indicate the point at which the change from one into the other occurs.]

Within the general class of preventive checks Malthus distinguished moral restraint from those "preventive checks that clearly come under the head of vice."[83] The basis of the distinction, as it appears in the last edition of the *Essay* which appeared during his lifetime, is thus stated:

> By moral restraint I would be understood to mean a restraint from marriage, from prudential motives, with a conduct strictly moral during the period of this restraint; and I have never intentionally deviated from this sense. When I have wished to consider the restraint from marriage unconnected with its consequences, I have either called it prudential restraint, or a part of the preventive check, of which indeed it forms the principal branch."[84]

It has been inaccurately asserted that the preventive check of moral restraint was first recognized in the *Essay* of 1803. According to the captious Hazlitt, it "only comes in as a snivelling interpolation in some places of the second edition."[85] The *Quarterly Review*, during its period of hostility, referred to "the applica-

[83] *Essay* (6th ed., 1826), p. 16.

[84] *Ibid.*, p. 15, n.

[85] *Reply to the Essay on Population*, p. 107.

tion which Mr. Malthus makes of moral restraint, after he has luckily recollected that such a virtue is in existence."[86] Sadler called it "nothing more than a mere afterthought."[87] But it is tolerably plain that the term preventive check was used in the original edition of 1798 in the sense of prudential restraint with an implied moral character. The moral implication is seen in such a distinction as this: "To these two great checks to population, ... which I have called the preventive and the positive checks, may be added, vicious customs with respect to women. . . . ."[88] The prudential element is quite clear. Throughout Europe, it is set forth, "a foresight of the difficulties attending the rearing of a family, acts as a preventive check."[89] "The preventive check appears to operate in some degree through all the ranks of society in England. There are some men, even in the highest rank, who are prevented from marrying by the idea of the expenses. . . . ."[90] And for the various classes in turn the preventive check is described as restraint upon marriage. Nor is this interpretation of the preventive check discredited by Malthus' statement that all the checks may "be fairly resolved into misery and vice."[91] He intends the term misery to include not only the forms of suffering which he subsequently denoted by that word, but also "every the slightest check to marriage, from a prospect of the difficulty of maintaining a family."[92]

But it would be an error to infer from such passages

[86] VIII (December, 1812), 324.

[87] *Op. cit.*, I, 316.

[88] *Essay* (1st ed.), pp. 99–100. [89] *Ibid.*, p. 62. [90] *Ibid.*, p. 63.

[91] *Ibid.*, p. 100. [92] *Ibid.*, p. 108. Cf. p. 89.

that Malthus gave moral restraint sufficient recognition from the start. He was too intent upon discrediting Godwin's hopes of the perfecting of man, and threw the emphasis of his argument on the positive evils of over-population. So, apparently, at first Godwin went farther than Malthus in his assumption of a prudential restraint of numbers. In 1801 Godwin wrote: " . . . . in the community in which we live, one of the great operative checks upon an increasing population arises from virtue, prudence or pride."[93] As early as August 20, 1798 (the Preface to the original *Essay* is dated June 7, 1798), Malthus had written a letter to Godwin[94] in which he referred to "the prudence which you speak of as a check to population," and of "your system of prudence, the object of which, as I conceive, would be to keep the population always considerably within the means of subsistence." Very probably it was Godwin, therefore, who impressed Malthus with the inadequacy of his earlier opinion and led him to write, in prefacing the *Essay* of 1803:[95] "Throughout the whole of the present work, I have so far differed in principle from the former, as to suppose another check to population possible, which does not strictly come under the head either of vice or misery"—that is, moral restraint, given definiteness and a name, and clearly presented as the most important of the preventive checks. [This change in the argument has been severely criticised. Walter Bagehot[96] pointed out that the first *Essay* would prove the case if the premises were sound; the second edition, which is sound-

[93] *Thoughts*, etc., p. 73.

[94] Printed in *William Godwin: His Friends and Contemporaries*, by C. Kegan Paul (London, 1876), I, 321 ff.

[95] P. vii. [96] *Economic Studies* (London, 1880), p. 137.

ly based, proves nothing. But the premises are not really left out of the second edition and there is plenty of room for misery and vice even though moral restraint is included; for Malthus did not set much store by its effective operation.]

Acquiescence in the plea for moral restraint was not instant and general. No doubt the theoretical controversy got headway before the softened doctrine of 1803 had become appreciated. There were however those who perfectly recognized the emphasis which Malthus had come to place on the deferring of marriage but who refused their approval. Ravenstone was inclined to deny the existence of all preventive checks.[97] Several authors believed restraint unnecessary. The need had not yet arrived, thought Hall.[98] Richard Carlile at first agreed, and also held that social reform was the true remedy which would make others superfluous.[99] The *Black Dwarf* took a like stand,[100] and Gray, in his faith that "the increase of population carries within itself a completely corrective influence against a general excess,"[101] positively advocated early marriages and their encouragement by giving the preference in employment to married men with children. Others lacked confidence in the moral motive to restraint, or in the probability of virtuous celibacy. Malthus had been at first of this group, and he never attained to more than a hesitant optimism. "The effects, indeed, of these restraints upon marriage," he had said, "are but too conspicuous in the consequent vices that are produced in almost every part

[97] *Op. cit.*, p. 190.

[98] *Op. cit.*, pp. 343–44.

[99] *Republican*, X (London, 1824), 591.

[100] XI (1823), 698 ff.

[101] *Gray v. Malthus*, p. 164.

of the world."[102] Cobbett declared restraint inconsistent with chastity.[103] A correspondent of the *Black Dwarf*, who signed himself H. M., wrote: "I have no belief in the efficacy of Mr. Malthus's moral check. . . . ."[104] And the author—said to be Thomas Rowe Edmonds—of the anonymous *Enquiry into the Principles of Population*, which appeared in 1832, thought that the moral argument to persuade the poor to postpone marriage was hopeless.[105]

Injustice was repeatedly urged against the doctrine of moral restraint. "And for whose benefit," demands Hall, "are the poor to remain single, to be abstemious and continent? For those, I say, who wallow in waste and luxury, sensuality and lust."[106] Weyland protests the injustice of a measure which is in effect a hardship to the poor only.[107] Booth desires remedies for the evils of population which fall more equally on the poor and the rich. "I do not mean to say," he continues, "nor do I believe, that our modern political economists are designedly the enemies of the poor man; but their proposed remedies for his poverty must be very unpalatable to him."[108] Cobbett regularly was the demagogue, and his "Sermon on the Sin of Forbidding Marriage"[109] is a characteristic attempt to inflame the class feeling of laborers against the idle who were urging them not to marry.

[102] *Essay* (1st ed.), pp. 69–70.

[103] William Cobbett, "Sermon on the Sin of Forbidding Marriage," in *Twelve Sermons* (London, 1823).

[104] XXI (January 7, 1824), 22.

[105] Pp. 77–78.

[106] *Op. cit.*, pp. 342–43. [107] *Op. cit.*, pp. 400 ff.

[108] *A Letter to the Rev. T. R. Malthus* (London, 1823), pp. 64–65.

[109] *Op. cit.*

But the critics did not stop at charging injustice: the preventive check was stigmatized as irreligious, too, and thus fell heir to part of the general charge of sacrilege which Malthus had sought to avoid and Sumner with some success labored to repel.[110] Ravenstone, speaking of the adoption of preventive checks as means of escape from the positive, says sarcastically: "It was better for man to fall into the hands of his fellow creatures than into those of God."[111] Sadler storms through the whole range of obloquy in his attack. He throws aside the distinction between moral restraint and the preventive check in general. "Physically speaking, we may hold that it is possible for mankind to remain chaste without marriage; morally considered, it is impossible. And it is worse than idle—it is immoral, indecent, and false, to assert otherwise."[112] The preventive check is then branded as impolitic, cruel, partial and unjust, and "not only unnatural and unlawful," but "WICKED, inexpressibly wicked. . . . . The very intent appears heinously wicked."[113] Through six scathing chapters the arraignment is pursued.

And yet gradually the doctrine of moral restraint prevailed; or, more accurately, prudential restraint, which most writers wished to be moral in the Malthusian sense, and which many believed could be, became the center of emphasis in attempts to indicate the remedy for overpopulation. The enumeration of late marriage among the "defecundating causes" designated by Gray

[110] John Bird Sumner, *A Treatise on the Records of the Creation, and on the Moral Attributes of the Creator; with particular reference to the Jewish History, and the Consistency of the Principle of Population with the wisdom and goodness of the deity* (2 vols.; 5th ed.; London, 1833), Vol. II, Part II, chaps. v, vi.

[111] *Op. cit.*, p. 14.

[112] *Op. cit.*, I, 317. [113] *Ibid.*, I, 325.

in 1815[114] is a partial recognition. Also taken from the enemy, and more interesting as well as earlier, are contributions to the theory of prudential restraint made by Hazlitt. This check, he argues, is automatically responsive to increased stress of conditions. If it is but granted that the power to increase is constant and the sensitiveness to want is given, it follows that increasing want will bring increasing reaction of prudence and increasing control over passion.[115] In another passage Hazlitt suggests what may be called a socialization of the preventive check by a diffused spirit of continence which may characterize a period and in effect reduce the passion between the sexes that Malthus assumed to be constant.[116] Among writers who advocated hopefully the general practice of the preventive check were Ingram,[117] "persuaded" that prudence would diminish the number of very early marriages when necessary; the anonymous author of *On the Means of Retaining the Population within any Required Limits*, with "not the least doubt but that if proper or rational means were adopted, marriage might be deferred or prevented on almost every occasion where it was deemed necessary";[118] and Francis Place,[119] who found "no just cause for despair, but much for hope, that moral restraint will increase." Another advocate was Raikes, author of *Two Lectures on Popu-*

[114] *Happiness of States*, p. 309.

[115] *Op. cit.*, pp. 108–9. [116] *Ibid.*, pp. 137 ff.

[117] Robert Acklom Ingram, *Disquisitions on Population; in which the Principles of the Essay on Population by the Rev. T. R. Malthus are Examined and Refuted* (London, 1808), pp. 34–35.

[118] P. 416.

[119] *Illustrations and Proofs of the Principle of Population: including an examination of the proposed remedies of Mr. Malthus, and a reply to the objections of Mr. Godwin and Others* (London, 1822), pp. 178–79.

lation,[120]—lectures "delivered in the Mechanics Institute in Chester" and thus representing the attempt to bring the doctrine to the attention of the people. Thoroughly optimistic was John Bird Sumner, in his *Records of the Creation*.[121] Thompson had complete faith that prudence would solve the problem—if his co-operative community were realized.[122] "Strong as the principle of population is," wrote Alison, " .... prudential considerations, when suffered to develop themselves, are still stronger, and are perfectly sufficient to restrain the rate of human increase.[123] Senior protested against the lack of confidence in the adequacy of the preventive checks which had been shown by McCulloch, James Mill, and Malthus himself.[124] His mention of McCulloch calls attention to a marked demonstration of the increasing recognition which the preventive check received. The first edition of McCulloch's *Principles of Political Economy*, published in 1825, merited Senior's comment. Moral restraint was noticed but barely. When the third edition appeared, in 1843, it showed the effects of the current of thought in the interval:[125]

Mr. Malthus did not lay sufficient stress on the influence of the circumstances under which population is placed, and of the prudential considerations which they invariably bring along with them, in determining the rate of increase; and they have been all but overlooked by several of his followers.

[120] Henry Raikes, *Two Lectures on Population as affecting the Welfare and Happiness of Nations, etc.* (Chester, 1844).

[121] *Op. cit.*

[122] William Thompson, *An Inquiry into the Principles of the Distribution of Wealth Most Conducive to Happiness; applied to the newly proposed system of voluntary equality of wealth* (London, 1824), p. 536.

[123] *Op. cit.*, I, p. 110.

[124] *Two Lectures on Population*, pp. 35 ff. [125] P. 229.

This change of emphasis by McCulloch is significant. In this incident; in the notable exposition of prudential restraint by John Stuart Mill; and in such a book as Miss Martineau's *Weal and Woe in Garveloch*,[126] which sets forth a very orthodox doctrine of the duty of prudence in a thin disguise of very dull fiction, and which is all the more interesting for the reason that it is simply a devoted attempt to disseminate accepted wisdom,—there is clear evidence how fully the classical economists were convinced that they must insist upon prudential restraint in presenting a population theory that professed to be a rule for action.

As was to be anticipated the increasing conviction of the need of a prudential check before long caused discussion about the manner as well as the extent of its application, and a consequent modification of opinion concerning the form which such a check should take. Malthus had confined himself to the recommendation of late marriage and of continence during the preliminary years of privation. For those who were once married he ventured no counsel of restraint.[127] Any physical device for limiting the family he vigorously denounced.[128] Continuance of continence in the marriage relation he may have thought it improper to advocate: he certainly did not expect it, as appears in his judging the propriety of marriage according to "the prospect of being able to support a wife and six children"[129]—a criterion which we must agree with Weyland[130] in thinking ridiculous. Malthus avoided any direct clash with traditional

[126] London, 1832. [127] *Essay* (2d ed.; 1803), p. 595.

[128] Cf. *Essay*, Appendix (5th ed., 1817), p. 393; and sixth edition (1826), II, 479.

[129] *Essay* (4th ed.; 1807), p. 410. [130] *Op. cit.*, p. 415.

morality, as might have been expected of one who had taken orders in the Church of England. This course may have been most conducive to the acceptance of his teachings, quite apart from the motives of his own conscience and belief.[131] But to more radical thinkers, it makes his book, utilitarianism tempered by authority, seem to serve two masters. Meyerhof ("Hans Ferdy"), the German Neo-Malthusian, thinks that the logical outcome of the *Essay* was prevented by the intrusion of this spirit of deference to tradition—"a mythological cuckoo's egg in the nest of exact science!"[132] His is the view of one looking backward, however, out of a period with very much altered opinions. For a long time Malthus' formulation of the proper check was accepted. A long list of writers thought of the preventive check as essentially a postponement of marriage. Among these were Jarrold,[133] Ingram,[134] Hall,[135] Sumner,[136] Grahame,[137] Ravenstone,[138] Lloyd,[139] Senior,[140] Manning,[141] Twiss,[142] and the anonymous authors of *On the Means of Retaining the Population*[143] . . . . and *An Enquiry into the Principles*

[131] Francis Place, *op. cit.*, p. 173.

[132] *Sittliche Selbtsbeschränkung der Kinderzahl*, p. 10.

[133] T. Jarrold, *Dissertations on Man, Philosophical, Physiological, and Political; in answer to Mr. Malthus's 'Essay on the Principle of Population'* (London, 1806), pp. 51–58.

[134] *Op. cit.*, pp. 3 ff.

[135] *Op. cit.*, p. 326.

[136] *Op. cit.*, Vol. II, chap. v.

[137] *Op. cit.*, chap. vi.

[138] *Op. cit.*, pp. 25–45.

[139] W. F. Lloyd, *Two Lectures on the Checks to Populations, delivered before the University of Oxford, in Michaelmas Term 1832* (London, 1833).

[140] *Two Lectures on Population*, Lecture II.

[141] *Op. cit.*, pp. 291 ff.

[142] *Op. cit.*, pp. 19–25.

[143] *Op. cit.*, pp. 416 ff.

of Population.[144] In fact, the discussion in England seems not to have contemplated any other form of preventive check as desirable until after 1820. Then, rather abruptly, it was proposed to carry the practice of restraint into the marriage relation, and a propaganda developed in favor of physical artifices to prevent conception.

For the observance by the married of what might still be called moral retraint the great advocate among English economists is John Stuart Mill. "That it is possible to delay marriage," he observes, "and to live in abstinence while unmarried, most people are willing to allow: but when persons are once married, the idea, in this country, never seems to enter any one's mind that having or not having a family, or the number of which it shall consist, is amenable to their own control."[145] In a footnote he adds: "Little improvement can be expected in morality until the producing of large families is regarded with the same feelings as drunkenness or any other physical excess"; and there is further instruction in his approving quotation from Sismondi[146] of a passage which insists that the married should submit to the same restraint that is practiced by the unmarried.

But physical restraint, in the somewhat special sense in which the term has been applied, was contemplated almost without exception by those who made preventive checks invade the marriage relation. John Stuart Mill stands almost or quite alone in the less radical position, and even he doubtless had no intention of excluding

[144] *Op. cit.*, pp. 77 ff.

[145] *Principles* (5th ed.; London, 1862), Book II, chap. xiii, par. 1.

[146] For a statement of Sismondi's position, see his article on "Political Economy" in the *Edinburgh Encyclopedia* (Philadelphia, 1832), XVI, 71–77.

physical means of prevention. Rumor had it that in his earlier years he had been sought by the police because he had distributed leaflets of the propagandists.[147] At least his father was clearly in sympathy with the movement. James Mill, in his *Elements of Political Economy*, had written of ". . . . prudence; by which either marriages are sparingly contracted, or care is taken that children beyond a certain number, shall not be the fruit."[148] When one recalls that the elder Mill, in spite of the slender means of his earlier years, had a family of nine children—"conduct than which nothing could be more opposed," as his son remarked, "to the opinions which, at least at a later period of his life, he strenuously upheld"[149]—one feels no surprise at his expression, or at his conclusion that "the grand practical problem . . . . is, to find the means of limiting the number of births."[150] More importance, in the history of this school of thought, has been assigned to an *obiter dictum* of the same author which occurs in the article "Colony" in the *Encyclopædia Britannica Supplement* of 1824 and has reference to "the best means of checking the progress of population." There he writes, with the caution one would expect of a contributor to such a work:

> And yet, if the superstitions of the nursery were discarded, and the principle of utility kept steadily in view, a solution might not be very difficult to be found; and the means of drying up one of the most copious sources of human evil . . . . might be seen to be neither doubtful nor difficult to be applied.[151]

[147] [For a full statement of the early Neo-Malthusian propaganda, see Essay III.—EDITOR.]

[148] First ed. (1821), p. 34.

[149] J. S. Mill, *Autobiography* (London, 1873), p. 3.

[150] *Op. cit.*, p. 51. [151] III, 261.

Radical declarations in favor of physical restriction made their appearance in the years following 1821. Between the dates of James Mill's *Elements* and his "Colony" article the outspoken propaganda in England had been started. The first unequivocal advocacy of this form of check appears to have been that contained in Francis Place's *Illustrations and Proofs of the Principle of Population*, the introduction to which is dated February 1, 1822. Place's book was one of the many contributions to the literature of population called forth by Godwin's *Enquiry* of 1820; but it was by no means a mere "refutation" of the familiar type. After passing in review various possible sources of improvement in the condition of the people Place comes to this notable utterance:

> If, above all, it were once clearly understood, that it was not disreputable for married persons to avail themselves of such precautionary means as would, without being injurious to health, or destructive of female delicacy, prevent conception, a sufficient check might at once be given to the increase of population beyond the means of subsistence; vice and misery, to a prodigious extent, might be removed from society, and the object of Mr. Malthus, Mr. Godwin, and of every philanthropic person, be promoted, by the increase of comfort, of intelligence, and of moral conduct, in the mass of the population.

And he adds, prophetically: "The course recommended will, I am fully persuaded, at some period be pursued by the people, even if left to themselves."[152] The lack of detailed specification by Place of how the result was to be accomplished was abundantly supplied by a mysterious leaflet which apparently came into circulation in the same year—1822. This was a small slip of paper, unassumingly and almost elegantly printed, bearing the

[152] P. 165.

heading *To the Married of Both Sexes* and setting forth in full and frank detail means of preventing conception. A part of its curious history is told in a hostile pamphlet entitled *The History of the Diabolical Hand Bill*, published in 1823,[153] according to which the leaflet was brought to the public notice in the following manner. A package, ostensibly having come by post from London, was delivered one evening to Mr. Taylor of the *Manchester Guardian* with a note asking that he be so kind as to see that it was given to a certain Mrs. Fildes. With this request Mr. Taylor complied. Mrs. Fildes had been identified with work in aid of the laboring classes; but when she found in the package a number of the astonishing handbills together with an anonymous note explaining that she had been chosen as a person to whom the propaganda would appeal, she felt less interested as a philanthropist than insulted as a woman, and she proceeded to notify the prosecuting authorities. After Mr. Taylor had cleared himself in the investigation which followed, evidence was sought of Richard Carlile, who for his persistent and radical efforts to maintain the freedom of the press was spending most of his time in Dorchester gaol. Carlile denied all connection with the affair. Meantime Wooler, who as editor of the *Black Dwarf* was then conducting the free-press campaign, gave publicity to the episode by reprinting the handbill in his paper and giving space to the discussion it provoked. The investigation, then, had the effect that has regularly followed attempts to repress an

[153] *The History of the Diabolical Hand Bill, for checking Population; With the various Correspondence which has taken place, on this subject with Mrs. Fildes, Mr. J. E. Taylor, The Attorney General, Mr. Wooler, and Mr. Carlile, With an interesting Statement from the latter respecting Mr. R. Owen, the Lanark philanthropist!! With observations by A. Clark* (Manchester, 1823).

offensive doctrine. It served admirably to make the propaganda known. But it had another effect quite surprising: it brought out evidence that the inspirer of the handbill was none other than Robert Owen. Carlile, at the time that he denied his own complicity, had reported that Owen was said to be behind it.[154] James McPhail, in the *Black Dwarf*,[155] made further allegations of the same tenor. Later, Carlile[156] reiterated his former statement with some additional details. Owen had found himself confronted at New Lanark with the contingency that the theorists had predicted; and to prevent increase of numbers from soaking up all the gain from the improved social system he was there developing he had borrowed from France the expedient which the thrifty in that country had devised to protect themselves in such degree of material comfort as they could acquire. So ran the explanation. It gains plausibility from the fact that Robert Owen's son, Robert Dale Owen, became so soon after a professed advocate of physical preventive checks. Bonar is satisfied that "it is beyond all doubt that the Neo-Malthusians are the children not of Robert Malthus, but of Robert Owen."[157] Whatever the paternity of the propaganda, it had announced itself in England with an abruptness that might well set men to thinking.[158]

Discussion inevitably greeted the new proposal, and

[154] *Ibid.*

[155] XI (October, 1, 1823), 499–500.

[156] *Republican*, XI (May 6, 1825), 556.

[157] *Malthus and His Work* (1st ed., 1885), p. 24.

[158] [An exhaustive treatment of the authorship of the Diabolical Hand Bill appears in Essay III, pp. 98 ff. In Mr. Field's final judgment it was written "possibly by Robert Owen, but more probably by Place or some other person within the circle of Place's connection."—EDITOR.]

the discussion made fresh converts. Place's recommendation was frozen in conservative periodicals which reviewed his book, quite as might have been expected of British propriety. The *Black Dwarf*, however, characteristically undertook to publish such criticism as should thresh out the merits of the case. Editorially it took the stand that nothing but social reform was appropriate as cure for the evils attributed to overpopulation; but its contributors were eager and ingenious in championing the new mode of prevention,—asserting that it promoted human happiness; denying that it facilitated breach of chastity, and, in one case, maintaining by thrust and parry that, so far as contravening the laws of nature was concerned, "to check population is not more unnatural than to make use of an umbrella."[159] A year later a similar discussion was carried on in the *Republican*. Carlile presented the editorial views, which interestingly reveal the course of his conversion. At the outset he too, was indifferent or hostile to what seemed to him mere palliatives of a social wrong. But the leaven was working. Presently he wrote: "I have not one word left to say against this proposed prudent check . . . . but, with me, it shall be left as a domestic or family arrangement. I will not advocate it at present under the head of a great political principle."[160] Six months later, "after three years of consideration,"[161] he comes to open advocacy of the prevention of conception, and observes ". . . . I am the last of a multitude of converts to the utility and importance of the measure."[162] The article, "What Is Love?" from which these last phrases are quoted, was subsequently abridged and

[159] XI (November 27, 1823), 756.
[160] X (November 12, 1824), 588.
[161] *Ibid.*, XI (May 6, 1825), 556.
[162] *Ibid.*, p. 563.

revised and published anonymously under the title, *Every Woman's Book, or What Is Love?*[163] In this form it is the most familiar of Carlile's writings on the subject. It contains a reprint of the *Diabolical Hand Bill* and also reproduces two adaptations of it which had been issued, entitled respectively *To the Married of both Sexes of the Working People*, and *To the Married of both Sexes in Genteel Life*. Carlile had finally become both convert and propagandist, to such an extent that he looked back upon the writing and publication of *Every Woman's Book* as upon an act which merited the gratitude of humanity for a real service. Meantime others had been added to the ranks of those who supported the new expedient. Thompson, in 1824, embodied in his *Inquiry* a clear recommendation of preventive artifice, though the manner in which the result is to be accomplished is but vaguely indicated.[164] Campion, in 1825, advocated, but did not describe, restrictive measures.[165] Robert Dale Owen contributed to the growing literature his well-known *Moral Physiology*.[166] The principles of Place and the hand bill had, in the decade following their first appearance, achieved a prominence that marked them as having come to stay wherever problems of population should be debated.

Additional evidence of the foothold obtained by the new propaganda is contained in the allusions of those who were not won over to approval. Cobbett, in 1823,

[163] London, n.d. [see below p. 120].

[164] *Op. cit.*, pp. 547–50.

[165] W. C. [i.e., Wm. Campion according to Francis Place's MS note], *Newgate Monthly Magazine*, II (London, Nov. 1, 1825), pp. 97–102.

[166] *Moral Physiology; or a brief and plain treatise on the population question* (December, 1830). [No copy of the first American edition is known to be extant. First English edition, 1832.]

seems to have felt that the preventive check was assuming radical forms, for in his "comedy in three acts" called *Surplus Population* he makes the character in whom he satirizes the political economist of the day explain: "I am labouring first to persuade them not to marry, and next to teach them how to avoid having *live* children, if they be married."[167] Less extravagant and so more significant are certain remarks of Booth, who, in that same year, 1823, scoffingly observed that the decrease of births in Ireland, "if not allowed to be miraculous, can be accounted for only upon the supposition, that some Radical Economist has been lecturing at Portarlington on the subject of procreation" and that "the enlightened parishioners of Lea and Coolbanagher have got possession of the new secret process for preventing procreation."[168] Sadler, in 1830, is horrified to note that "some of the converts and advocates" of the prevalent theory of population "have already begun to act upon it, by explaining and recommending, in a scientific form and in plain and unequivocal language, the means by which the passions may be in some sort gratified, and the consequences (human increase) prevented or evaded."[169] McCulloch condemns physical methods of restraint.[170] Hickson is hostile to the prevailing population theory which rests all hope of relief on fewer marriages or "some artificial means taken to reduce the average number of births to a marriage."[171] Rickards condemns as extravagant fanaticism the imposition of

[167] *Surplus Population: and Poor-law Bill. A Comedy in Three Acts* (London, n. d., probably 1823), p. 16.

[168] *Op. cit.*, p. 122. [169] *Op. cit.*, I, 334.

[170] *Principles of Political Economy* (3rd ed.; 1843), p. 235.

[171] *Op. cit.*, p. 9.

the duty of moral restraint on married persons and particularly the preventive means which "writers of considerable ability have not scrupled to propose" and which he brands with the epithets immoral, absurd, revolting, monstrous and *inter Christianos non nominanda*.[172] From the start, then, the proposed methods of physical restraint have had the recognition of apprehensive hostility.

There is no present need to follow out the history of the so-called Neo-Malthusian movement. Every observer is conscious that the propagation of the Neo-Malthusian ideas and the practice of the Neo-Malthusian methods have not abated of recent years. The scandal of the seventies in England, culminating in the trial of Bradlaugh and Mrs. Besant for promoting the circulation of Knowlton's *Fruits of Philosophy*, is sufficiently notorious. The principles which these later enthusiasts supported sprang originally, as has been shown, from the direct line of descent of the orthodox population theory. But once developed they have diverged, and their later course leads away from the path followed by the economists.

The motives to the practice of preventive checks are no less important than the forms of check adopted; and among these motives the chief is economic self-interest. The prudence which figures in the Malthusian theory is economic prudence; and though it was the so-called moral restraint which Malthus most approved, his use of the term morality signified absence of immoral consequences rather than a motive of conventional morality. Though this distinction seems to have been

[172] *Op. cit.*, p. 194.

missed by Ensor,[173] and similarly by the elder Laing, whose interesting observations of social conditions in Switzerland revealed to him the prevalence of "economical restraint, which it is an abuse of words and principles to call moral restraint,"[174] it is beyond dispute that for Malthus, as for others, hope of bettering one's condition was the great inducement from which restriction of numbers was to result; and his lack of faith in the power of altruism to accomplish this end was shown by the origin of his theory in an attempt to discredit Godwin's project of an ideal society on the ground that when the welfare of every individual was no longer dependent on his own efforts, nothing would control the menacing pressure of population.

The economic motive to restraint as it affected the poor was fundamental in applied Malthusianism. Emphasis on men as consumers was perhaps the chief characteristic of the new interpretation which Malthus gave to the facts of population; and he was quite too much accustomed to make the poor laborer, whose lapse of prudence would at once expose him to misery and want in their most immediate forms, stand as the type of all members of society. Among Malthus' followers, also, the recognition of an economic check operative among the poor is so nearly universal that it would be idle to amass evidence of it. Such comment as is interesting comes from those who criticize but do not wholly reject the orthodox theory of the preventive check. In the *Enquiry into the Principles of Population* of 1832 it is

[173] George Ensor, *An Inquiry Concerning the Population of Nations: Containing a Refutation of Mr. Malthus's Essay on Population* (London, 1818).

[174] Samuel Laing, *Notes of a Traveller, on the Social and Political State of France, Prussia, Switz·la. ı, Italy, and other parts of Europe, during the present century* (Philadelphia, 1846), p. 318.

remarked that moral argument to persuade the poor to postpone marriage is by itself hopeless: to succeed the appeal must be to self-interest and some such controlling desire as the aspiration to live up to the standard of a given economic class. But it had already been recognized that the poor must first be taught economic ambition before self-interest would link itself primarily with economic wants. Thus Ricardo, in a passage of the chapter on wages in his *Principles*, desires that "the labouring classes should have a taste for comforts and enjoyments, and . . . . should be stimulated by all legal means in their exertions to procure them."[175] The pamphlet on *The Means of Retaining the Population* . . . . prescribes a bettering "of the actual condition of the poor" as a prerequisite for the instillation of economic motives to prudence.[176] Laing, the younger, was of opinion that "the only effectual means of regulating the progress of population in a country, is to begin by taking effectual means to raise the condition of its poorer inhabitants."[177] Lloyd[178] with much justice points out that so far as the wages-fund argument for prudence goes—the argument that every wage-earner has a direct interest in keeping down the number of those among whom the total amount available as wages is to be divided—the economic motive is trivial from the smallness of the return that comes from individual sacrifice. It is greatest when the occupation is such that earning

[175] Gonner's ed. (1891), p. 77. This passage did not occur in the first edition.

[176] *The Pamphleteer*, Vol. XVI (1820), p. 416.

[177] Samuel Laing, Jr., *National Distress, Its Causes and Remedies* (London, 1844), p. 74.

[178] *Op. cit.*, Lecture II.

power increases with age and the parents face the prospect of a long and expensive training of children before any return from them can be expected. But this latter observation, interesting as it is, applies rather to the professional classes than to the rank and file of wage-earners. In fact analysis of the economic check of the poor seems regularly to link it with economic aspirations of the wealthier classes.

The well-to-do, as has been increasingly realized, feel economic motives to restraint no less than the poor. Those who are not directly threatened by the positive checks,—who suffer from them only because social conventions and the individual attitude which is at once their cause and their result make it seem more tolerable to be poor than to appear poor,—are oddly enough precisely the persons more generally led by forethought to limit their numbers. Malthus and his disciples, seeking an example of prudence for those in want, found it in the habitual conduct of those relatively at ease. Already in the *Essay* of 1798 appeared plain recognition of the desire not to lower one's self in life, whatever the original eminence.[179] Gray, among the earlier critics, perceived that "fashion . . . . is too often against matrimony in the luxurious periods of society, from the influence partly . . . . of the unnecessary expenses in the common style of living."[180] Read thought that Malthus never sufficiently developed moral restraint and its foundation in "the desire inherent in all mankind of bettering their condition,—a principle which gives rise to every prudential habit."[181] Similar was the expression

[179] Pp. 63–70. [180] *Happiness of States*, pp. 310–11.

[181] Samuel Read, *General Statement of an Argument on the Subject of Population, in answer to Mr. Malthus's Theory* (London, 1821), p. 34.

of Lloyd: "After the necessary wants have been supplied, the next powerful motive to exertion is the spirit of emulation, and the desire of rising in the world. Men are attracted upwards by the example of others who are richer than themselves."[182] In *Observations on the Law of Population* is noticed the celibacy of those who from pride of blood decline to marry without the prospect of wealth.[183] Weyland brings out the economic check exercised by the scale of life in towns,[184] and the same phenomenon really lies behind Sadler's "law" that increase is inverse to density of population. Thompson[185] and Twiss[186] are others who recognize the prevalence of the economic check. An odd, backhanded tribute to its reality is found in a contention by Malthus' early opponent Ingram, whose admirable ideals become almost ludicrous in their contrast with ordinary experience, when he trusts that loss of economic position and renunciation of fashionable society will not stand in the way of marriages, since the virtuous will be more than consoled by quiet family life and will enjoy their "occasional intercourse with honest and industrious tradesmen and farmers, who are an ornament and a blessing to the community."[187] These citations, with those which are presently to follow, show convincing recognition that prudence has not been solely or even characteristically an attribute of poverty.

More comprehensive analysis of the economic basis of prudence has been attempted by some writers, who have thus brought into relation the variant forms of the check which control among the rich and among the poor.

[182] *Op. cit.*, p. 74.
[183] *Op. cit.*, p. 79.
[184] *Op. cit.*, p. 88.
[185] *Op. cit.*, pp. 537 ff.
[186] *Op. cit.*, pp. 16–19, 92.
[187] *Op. cit.*, pp. 77–78.

Especially illuminating was Senior's threefold classification of necessaries, decencies and luxuries.[188] The fear of losing luxuries, he thought, is but a slight check on population. Loss of necessaries is for the poor too familiar and for the rich too remote to cause alarm. Decencies are the chief factor in determining the prudential check, and the standard of decencies will grow more and more exacting. This perception by Senior of the preeminent imperiousness of conventional needs was a signal contribution to the economic theory of population, as well as a hint of the importance of social influences—imitation, fashion and the tyranny of public opinion—hardly to be called economic. But it was not the first attempt to analyze the prudential check. Alison had classified the impulses to prudential restraint and included among them the indefinite extension of artificial wants: the desire to accumulate property or capital and the wish to rise in social rank. His chapter on this subject,—the third chapter of his *Principles of Population*,—is admirable. Particularly excellent is his exposition of the nature and effects of conventional wants: ". . . . the highest objects of luxury in one age become comforts to the one which succeeds it, and are considered as absolute necessaries in the lapse of a few generations."[189] This process is most rapid in towns, where the proximity of all ranks stimulates imitation, and "luxury, invention, talent, and opulence are brought together."[190] "To descend to the habits of the lower orders, after having been accustomed to those of a superior class, is considered as the greatest misfortune which can befall an

[188] *Political Economy* (1850), pp. 36–40.

[189] *Principles of Population* (London, 1840), I, 104.

[190] *Ibid.*, I, 107.

individual."[191] With Senior and Alison therefore the implication is strong that ambition is a stronger motive to prudence than present misery. Decidedly of this opinion was the younger Laing. "The great check on premature marriage in every class is," in his judgment, "the 'public opinion' of that class, which requires a certain income and establishment in life before marrying. . . . ."[192] With the vigor of italics he declares that "*if people were all in easy circumstances the world would soon be depopulated.*"[193] On the other hand, ". . . . misery, up to the extreme point of famine and pestilence, instead of checking, tends to increase population."[194] But McCulloch, though he specially notes man's ambition to rise and admits that prudence will continually demand higher standards of living, rates want above ambition as a cause of progress.[195] Such then have been some of the conclusions drawn after a scrutiny of the economic grounds for prudential restraint. The inducements to practice restraint are not simple and uniform. Their action upon the various classes of the community might well be expected to lead to no uniformity of result.

[A discussion of the motives which underlie family limitation leads to the question of the effect of prudential restraint on the makeup of the population for the preventive check is in fact differential in its operation.] The motives which recommend it present themselves in different forms and with different appeal to different eco-

[191] *Ibid.*, I, 110.

[192] *Op. cit.*, pp. 68–69.

[193] *Ibid.*, p. 69 n.

[194] *Ibid.*, p. 69.

[195] *Principles of Political Economy* (2d ed.; London, 1830), Part I, chap. viii, especially, pp. 211 ff.

nomic and social classes, and the consequence is a corresponding difference in the rates at which the classes increase. As a further consequence may be anticipated a change in the composition of the community, due to a growing disproportion of its population elements. It is now to be demonstrated that the differential nature of restraint and of increase, and—though slowly and in slight degree—the effect of this upon the quality of the population, were appreciated during the course of the Malthusian controversy.

To enumerate authorities who have discerned the differential character of restraint is hardly more than to develop testimony already entered upon. As early as 1801 Godwin had remarked that the prudential check was less strong among the poor.[196] Malthus, in the edition of 1803, does likewise. In the lower culture levels, as in the most oppressed classes among the civilized, exertion and ambition are deadened. "It is the hope of bettering our condition, and the fear of want, rather than want itself, that is the best stimulus to industry, and its most constant and best directed efforts will almost invariably be found among a class of people above the wretchedly poor."[197] Malthus elsewhere alludes to well-known habits of restraint among the higher classes, but without great emphasis.[198] Weyland, in 1816, has more to say on this score.[199] Thompson is quite to the point: wealth and comfort notoriously increase the prudential check, to such an extent that the rich "have been constantly reproached with the excess of this prudence as a

[196] *Thoughts occasioned by the perusal of Dr. Parr's Spital Sermon, etc.* p. 73.

[197] P. 475.

[198] *Ibid.*, pp. 552–53.

[199] *Op. cit.*, Book I, chap. vi, also p. 410.

vice; . . . . punished for this supposed vice by foolish penal laws, and their numbers have been constantly kept up by recruits from the poorer classes."[200] "No truth of economy and morals is more certain, than that the increase of comforts among mankind engenders prudence, and arrests, instead of encouraging, the tendency to increase their numbers beyond the supply of those comforts,"[201]—obviously a comfortable faith for an advocate of socialistic reforms, and, in so far as it was true, one which discredited Malthus' argument against perfectibility. Lowe notes the avoidance of family cares by the Continental nobility.[202] Moreton, in 1836, dwells upon the influence of wealth in favor of late marriage or permanent celibacy and adds that "the marriages that do take place among the wealthy are less prolific than those which take place among the labouring classes."[203] Thornton, ten years later, agrees that "it is certain that the prudential considerations which constitute the only voluntary restraint on marriage, and which sometimes exercise an excessive influence among the rich, are absolutely powerless among the very poor."[204] In this connection he quotes a saying of Dr. Johnson: "A man is poor;—he thinks, 'I cannot be worse, so I'll e'en take Peggy.' "[205] John Stuart Mill is quite as decided in his disparagement of the prudence of the poor: "In England . . . . I much doubt if the generality of agricul-

[200] *Op. cit.*, p. 537. [201] *Ibid.*, p. 545. [202] *Op. cit.*, p. 235.

[203] A. H. Moreton, *Civilization or, A brief Analysis of the Natural Laws That Regulate the Numbers and Condition of Mankind* (London, 1836), p. 140.

[204] W. T. Thornton, *Over-population and Its Remedy; or, an Inquiry into the Extent and Causes of the Distress Prevailing among the Labouring Classes of the British Islands, and into the Means of Remedying It* (London, 1846), p. 121.

[205] James Boswell, *The Life of Samuel Johnson*, edited by J. W. Crocker (London, 1831), II, 103.

tural labourers practise any prudential restraint whatever."[206] But far removed from fear of the extinction of the race is his comment upon the habits of the wealthy, whom he charges, in the persons of the aristocracy and the clergy, with a "kind of incontinence"[207] in the size of their families. "Whatever the limit to the increase of population among the richer classes in Great Britain may be, it certainly is not the small number of births to a marriage."[208] Mill had been preceded in this view by the author of the pamphlet on *The Means of Retaining the Population* . . . . who noted that the prudential check was very efficacious in the middle class of society and who observed: "Those who will always be found most ready to gratify, without restraint, their animal propensities, are the very rich, and the very poor, and both for the same reason. The gratification is not likely to deteriorate their situations in life."[209] Rickards assails Mill for the unpleasant epithet applied to the having of large families in high places, but does not dispute the fact alleged.[210] Macaulay had once taken occasion to show how numerous was the progeny of British peers.[211] The apparent inconsistency of such fecundity with the belief then as now prevalent that prudence increases in proportion to the increasing demands of the scale of living is probably partly explained by the rule of primogeniture, which secured landed estates against minute division and made the position of the family nearly independent of the number of chil-

[206] *Principles* (5th ed.; London, 1862), Book II, chap. xi, par. 3.

[207] *Ibid.*, chap. xiii, par. 1, n.

[208] *Ibid.*, Book I, chap. x, par. 3 n.

[209] *The Pamphleteer*, Vol. XVI (1820), p. 413.

[210] *Op. cit.*, pp. 196 ff. [211] *Edinburgh Review*, LI (July, 1830), 316–17.

dren. Charges of excessive families have not been made in the same way against the French landholding class. [There are also characteristic manifestations of the differential operation of the preventive check in democratic countries. In a democracy everybody's life is theoretically and to some extent practically what he makes it. The stimulus to economic pride is strong, and the hope of improving their standard of living is cherished among the poor as well as among those of the protected classes. Here Godwin's optimism seems to be more right than Malthus' gloomy preaching. Given a situation which nourishes morale, the poor show a sensitiveness to the stimuli of economic ambition which no amount of Malthusian moralizing can ever quicken.] It remains uncertain to this day whether the maximum of prudence regularly goes with the maximum of wealth. At least there would seem to be general agreement that prudence is at a minimum where there is great poverty.

Of those whose attention was attracted by differential increase rather than differential restraint there is also a considerable list. "It is generally true all over the globe," wrote Gray in 1815, "that the poor and ill-fed districts are the nurseries for the populous, rich and well-fed."[212] In his subsequent work he expressed the same opinion: "In proportion as the classes are poorer and more populous" he observed they "produce more children per family on the average."[213] "The reproductive part of the people," said Weyland, "are principally the lower orders."[214] According to Ravenstone "The rich, so far from adding to the population of a country, are not able to keep up their own numbers."[215] To pre-

[212] *Happiness of States*, p. 451.
[213] *Gray versus Malthus*, p. 306.
[214] *Op. cit.*, p. 410.
[215] *Op. cit.*, p. 121.

vious citations from Thompson may be added his remark that "where the people are the poorest and most ignorant . . . . there is uniformly the greatest increase of the population."[218] Ensor,[217] of the earlier writers, and later Hickson, [218] Rickards[219] and Miss Martineau[220] are among others who noted the differential character of increase. But pre-eminent in their discussion of this subject were Alison and Grahame. Grahame, in so far as he differs from Alison, is interesting more especially for his estimate of the import of the facts, and of that, notice will be taken presently. Alison, in his presentation of the facts, is exceptionally interesting, especially when the date is considered at which his ideas were conceived. Having analyzed with much sagacity the influence of conventional wants he notes their effect in the slight natural increase of the upper social strata:

> Population advances with exceedingly slow steps among these classes; and so far from sending forth multitudes to compete with the inferior orders in their departments, they are unable to maintain their own numbers, and require continual accessions from the middling classes of society.[221]

The upward pressure of population (also dwelt upon by Grahame[222])—the recruiting of each rank from the ranks beneath—he carefully develops. "It is the continual pressure *from below* which occasions the excessive competition in every profession and business of life."[223] In summarizing the phenomena of differential increase as they presented themselves to most of the writers whose

[216] *Op. cit.*, p. 544.
[217] *Op. cit.*, pp. 145–48.
[218] *Op. cit.*, p. 62.
[219] *Op. cit.*, I, 245–51.
[220] *Weal and Woe in Garvelock* (2d ed.; London, 1832), p. 100.
[221] *Op. cit.*, p. 111.
[222] *Op. cit.*, pp. 91 ff.
[223] *Op. cit.*, p. 112.

views have been marshalled, one may well be content to borrow from Alison:

> It is a most important and luminous fact on the subject of population, that in every well-regulated society the rate of increase is slowest in the most opulent classes; barely perceptible in the middling ranks; and rapid only in those situations where comfort and the influence of artificial wants are unknown. By a singular anomaly, the rapidity of increase is in the inverse ratio of the means which are afforded of maintaining a family in comfort and independence: it is greatest where these means are the least, and least where they are the greatest.[224]

Though to one way of thinking differential increase is only the visible result of differential restraint, it has been observed by persons who laid little stress on prudential restraint and found an explanation in some more or less occult "law" of the nature of human multiplication. Conspicuous among these alike for its lack of scientific foundation and for the attention it received was Sadler's discovery: "The prolificness of human beings, otherwise similarly circumstanced, varies inversely as their numbers."[225] Undeniably Sadler's book was an important contribution to the controversial literature, but its strength was not in the adequacy of the principle it formulated. What truth there is at the bottom of this is chiefly the truth that an adequate or excessive operation of the economic check is characteristic of intense civilization, and that intense civilization connotes density of population. But this is not his own understanding of the phenomena he treats; and so, though he, with the rest, reports the diminution of the rich and the teeming propagation of the poor, it is with another shade of thought.[226] The highest economic classes have been physiologically "the most sterile, and

[224] *Ibid.*, p. 112. [225] *Op. cit.*, II, 352. [226] *Ibid.*, Vol. II, chap. xxi.

the lowest the most prolific."[227] Physiological explanations were offered in two other theories of importance. One rested on the assumption, partly borne out by experience but not universally true, that luxurious living conduces to a plethoric habit adverse to fecundity. The other concluded, a priori and a posteriori, that through the whole range of the animal kingdom high development of the individual in nervous and mental organization and in the resulting ability to preserve life is opposed to high development of the reproductive function and makes lavish creation of new life less necessary. The former was the *True Law of Population*[228] of Doubleday, advanced in a book of more scientific pretension than scientific merit, which for a time enjoyed a repute that has given it a prominent position in the history of population theory, and which obviously had occasion to dwell upon the relatively great increase of the poor and the extinction of wealthy families. The latter was Herbert Spencer's theory of the relation between individuation and genesis, first published anonymously in the *Westminster Review* of April, 1852, under the title "A Theory of Population, Deduced from the General Law of Animal Fertility." But neither of these authors was the first to suggest the thought which he developed. Malthus had brought to light a possible hint of the antagonism of individuation and genesis by quoting M. Muret's conjecture that "'God has wisely ordered things in such a manner, as that the force of life, in each country, should be in the inverse ratio of its fecundity.'"[229]

[227] *Ibid.*, II, 609.

[228] Thomas Doubleday, first edition; London, 1841. References in this text are to the third and enlarged edition (London and Bombay, 1853).

[229] *Essay* (2d ed.), p. 271. Cf. first edition, p. 217.

Jarrold, who was a physician, centers his *Dissertation on Man* upon the influence of the mind and its exercise in decreasing human fertility. Ingram commends him.[230] Gray counts as "defecundating causes" both "labouring with the mind" and luxury.[231] Luxury and refinement, thinks Read, check population by reducing the physiological fertility of women.[232] Moreton sees in the phenomena of human increase a suggestion of the rule of the animal and vegetable kingdoms that fertility diminishes with excess of nutrition.[233] Hickson approves Doubleday's "Law," already enunciated when he wrote; and precedes Spencer by touching on the "diminishing ratio of fecundity" as life grows longer and more developed, and on the inverse relation of fecundity and intellectual pursuits.[234] Considerable, then, both in number and importance, have been the writers who felt that the burden of the preventive checks was measurably lightened by opportune intervention of Providence or the operation of some natural law so as to reduce the impulse and power to increase.

The laws thus announced partly describe influences supplementary to the economic check; but in each case either the law itself or the popular understanding of it, really involves the principle of prudential restraint from economic motives that were not perceived. The explanation of the phenomenon of reduced rates of increase in dense populations, which inspired Sadler's two volumes, has been already suggested. In criticism of Doubleday it may with confidence be affirmed that the dying-out of the wealthy is not primarily a result of physiological in-

[230] *Op. cit.*, p. 39.

[231] *Happiness of States*, p. 309.

[232] *Op. cit.*, pp. 13, 15. [233] *Op. cit.*, p. 142. [234] *Op. cit.*, pp. 56, 59.

capacity. Wealth whets the desire for more wealth—for pre-eminence in wealth—and at the same time permits the formation of habits which are not consistent with the constant cares of a growing family, thus doubly making for the adoption of one form or another of the preventive check. Doubleday seems, moreover, to overestimate the correlation of income and food. As for the influence of mental development, one may concede an evolutionary tendency toward lessened fertility in highly developed and individualized types without conceding it much influence on population problems in the present. The period that must elapse before the organs and functions of human beings in general shall have been so readjusted that none of the Malthusian checks is called into operation may be safely set down as far longer than the time in which present rates of unrestrained increase could achieve that overpeopling of the earth which Malthus' critics thought so hazily in the future. Yet the apparent anticipators of Spencer, and many optimists who have been overhasty in seeking to apply his principle have seemingly believed that simply through education or a thoughtful mode of life an individual or a class is effectually sterilized. One cannot find much plausibility in Jarrold's notion that the man who is constantly concerned lest he fall lower than he desires in social station is made less prolific by the direct physiological reaction of this apprehensive activity of his mind.[235] Much more credible is Raikes, who thinks intellectual life exerts its influence not through physiological change, but through a change of habits which favors celibacy.[236] It is true that Spencer's theory would account for the gain of one function at the cost of others

[235] *Op. cit.*, pp. 263 ff. [236] *Op. cit.*, p. 50.

during an individual lifetime, and that Spencer himself adduced the case of frail, flat-chested girls whose exclusively mental education has unfitted them for motherhood.[237] But a more reasonable explanation of the small families of the educated is at hand: intellectual discipline inclines one to follow rational standards of conduct, and gives power born of long habit to inhibit the impulses of mere passion. In the terminology of this subject, it predisposes to prudence, and facilitates prudential restraint.

Differential increase, so variously and so often reaffirmed, conveys to the mind of the present day a suggestion of progressive change in the character of the population which was originally very tardily perceived. The orthodox, with their extraordinary disregard of the quality of persons and their characteristically arithmetical point of view,—according to which a human being was essentially a mouth and the probable source of more mouths,—were disposed to regard complacently the feeble propagation of any class as at least so much to be thankful for. But their thankfulness was of a negative sort: they were glad of the absence of cause for apprehension. For positive comments on differential increase recourse must be had to the critics and the rival theorists, with their several shades of opinion.

The disproportionate multiplication of the poor gave to the sentimentalists more than one cause for rejoicing. On the face of the evidence there had not been added to the sorrows of poverty the self-denial of prudential restraint. In this Grahame saw an equalization of happiness among the classes[238]—a means of adjusting "the

[237] *Principles of Biology* (New York, 1898), Vol. II, par. 367.

[238] *Op. cit.*, p. 242.

temporal advantages and happiness of each rank,"[239] as Weyland put it, "by a beautiful system of compensations."[240] Sadler, with amusing ingenuousness, ventures: "The preventive check, if necessary at all, ought to be imposed upon those classes of society whose resources would, in some measure, make up for the deprivations it demands."[241] His "law," implying that the check is not necessary, "acts not, therefore, by means which afflict or degrade the species, but by those which confer and secure the greatest measure of individual and general happiness."[242] That is, it limits the propagation of those who enjoy privileges of wealth which could not be partaken of by many, and allows to the masses a prosperous increase. Herein is a transition to another reflection which was deemed highly gratifying: namely, that if the preponderance of births takes place at the bottom of the economic scale and ranks are regularly recruited from below the normal lot of man is to better his conditions. This, also, was gladly noted by Grahame.[243] Doubleday fills with enthusiasm at the perpetual redistribution of property which follows the regular dying-out of wealthy families—"a distribution so beautifully equitable . . . . as to be calculated to excite the deepest admiration of all reflective minds."[244] But Moreton had gone yet further, and having contrasted the upward and hopeful careers of men for whom vacancies are left by failing upper classes with the wretchedness that would prevail if men were born in opulence and crowded downward into want declared that "these facts

[239] *Op. cit.*, p. 412.
[240] *Op. cit.*, p. 152.
[241] *Op. cit.*, I, 340.
[242] *Ibid.*, II, 610.
[243] *Op. cit.*, pp. 91–99.
[244] *Op. cit.*, p. 318.

. . . . appear to have contributed more than any other cause to the happiness of mankind."[245]

Consciousness of a selective process by which differential increase might affect the quality of a population had barely begun to make itself felt. Several of the separate observations which, combined, gave rise to the Darwinian theory of evolution by selection had been stumbled upon and uttered; but no one had perceived their import while they remained thus isolated. Malthus himself furnished a striking example by a passage in the *Essay* of 1798. He was discussing the organic perfectibility of man, and arguing that "it may be doubted, whether, since the world began, any organic improvement whatever in the human frame can be clearly ascertained."[246] But with reference to the argument from the analogy of animal breeding he made this concession: "It does not, however, by any means, seem impossible, that by an attention to breed, a certain degree of improvement, similar to that among animals, might take place among men. Whether intellect could be communicated may be a matter of doubt: but size, strength, beauty, complexion, and perhaps even longevity are in a degree transmissible."[247] Nevertheless general improvement by selective breeding among mankind seemed to Malthus improbable because it involved the celibacy of the bad specimens. It is curious that a writer who brushed against so many of the truths on which others built up a theory of the modification of types by selection should have been so unconscious of the suggestions contained in his own words. He who hopefully advocated a mitigated celibacy as a check

[245] *Op. cit.*, pp. 143–44.

[246] *Essay* (1st ed.), pp. 169–71. [247] *Ibid.*, p. 170.

thought it negligible as a factor of selection. With all his insistence on the possibilities of the geometrical ratio and for all his having remarked the differential practice of restraint he did not reflect that if a desirable type increased slowly it would be outstripped by one with a rapid rate of increase. It was his demonstration of the excessive powers of generation which admittedly inspired the Darwinian idea of the struggle for existence; yet he did not realize that hardships might be unequally fatal to different sorts of men. The passage on selective breeding which has just been quoted stands unchanged in the last edition of the *Essay*, twenty-eight years after its first appearance. The thought which it embodies seems to have occurred to Malthus merely as part of the argument on the perfectibility of man. When he had to his satisfaction disposed of human perfectibility and turned his mind to other aspects of his problem the argument was preserved rather as a relic than as a living part of the theory of population and its germ of insight into the operation of selection never developed. Meantime a strong hint of natural selection came from another quarter. Grahame, whose treatment of differential increase and the struggle upward from the lower levels of living to the higher has been noticed, saw in the positive checks (of which, in his estimation, war and vice are not natural forms)[248] an ordeal, especially severe in infancy, by which weaklings are eliminated and the type improved.[249] The suggestion is crude and fallacious, but it might have been thought-provoking. It is therefore significant that Malthus, who took special notice of Gra-

[248] *Op. cit.*, p. 169.

[249] *Ibid.*, p. 167.

hame's book,[250] apparently quite disregarded it. Another indication that the early groupings failed, from lack of synthesis, to disclose the importance of selection, is afforded by Ingram. He expressed his disapproval of the conditions which required the celibacy of university fellows, observing that the result was important not numerically but because of "the class of people that are thereby prevented from marrying."[251] Yet despite the excellent chance thus opened to assert that adverse selection was operative, he rested his case on the single fact that "the level of academical virtue is much depressed in consequence. . . . ."[252] The nearest approach to a modern argument during this period seems to come from Cobbett, in amusingly reversed form: "If . . . . it were the idlers . . . . that these men sought to prevent from marrying, there might be . . . . some reason . . . . for an endeavour to prevent an increase of those whose utility in the world is not so apparent."[253] On the whole it may fairly be said that real appreciation of the selective possibilities of differential increase was lacking for the first three or four decades of the Malthusian controversy.

The period of a generation or so following the death of Malthus, which occurred in 1834, added to what had preceded two noteworthy, though sporadic utterances. One occurs in the pamphlet by "Marcus" *On the Possibility of Limiting Populousness*,[254] when the author takes account of the objections to his proposed method for reducing the number of births. "It is a serious, and an

[250] *Essay* (5th. ed., 1817), III, 388 ff.

[251] *Op. cit.*, p. 99. [252] *Ibid.*

[253] *Sermon on the Sin of Forbidding Marriage*, pp. 251–52.

[254] 1838, p. 37.

humiliating truth," he observes, "that man, even the savage, is a plant cultivated by the way of selection, and by the rejection of individuals unfitted for the places to be filled. All plants, and animals, though wild, are so: everywhere the less thriving is gradually pushed out of its place by others, whose qualities are more conformed thereto. All our efforts to command qualities by the way of education, or an artificial atmosphere of circumstance, are mocked at by the mysterious accidents of generation: or at least by those other combined circumstances which are far beyond our command." Hence it may be objected, as the author foresees, that artificial restriction of numbers will impair the process of selection needed to preserve the species from degeneration. Striking as this passage is as a statement of the principle of natural selection and as a recognition of difference of inborn characteristics, though hardly of an ordered heredity, "Marcus" was satisfied with "contemplating it only, as a point of curiosity in the Science of Population,"[255] since he thought that a greatly reduced pressure of population would still suffice to insure the desirable degree of elimination. Much more direct in its application to the population problem is the pioneering comment of Hickson, in his *Westminster Review* article of 1849: "Any scheme of the kind"—that is, restricting births according to rational judgment of the number for whom the means of support are adequate—"acted upon by the educated classes (as it is said to be by some portion of them in Paris) being necessarily confined to those classes and not extending to the lower, must always have the effect of adding to the disproportion, already too

[255] *Ibid.*, p. 38; reprinted in *The Book of Murder* by "Marcus" (London, 1839), pp. 30, 31.

great, between the ignorant and the intelligent, the feebler races and the stronger, and may, therefore, be condemned as a contrivance by which a few only could possibly benefit, and calculated to aggravate the evils sought to be remedied in respect to the interests of society at large."[256]

It was in the late sixties that the principle of social improvement or deterioration through differential increase made itself permanently and emphatically part of the theory of population. Two men in particular,—Francis Galton and W. R. Greg,—neither an economist, but both impressed with the ways in which civilization fosters a degeneration of the human type, voiced the growing apprehension. Galton, in two articles on "Hereditary Talent and Character," published in *Macmillan's Magazine* in 1865,[257] sketched the views which he later expanded into his great work on hereditary genius. Greg contributed to *Fraser's Magazine* for September, 1868, an article "On the Failure of 'Natural Selection' in the Case of Man." This developed into the chapter entitled "Non-survival of the Fittest" in his *Enigmas of Life*, which appeared in 1872; but as an article it had aroused a lively discussion[258] and from it and Galton's *Hereditary Genius*[259] Darwin drew extensively in writing the passage on "Natural Selection as Affecting Civilized Nations"[260] in the *Descent of Man*, first published in 1871. Despite the fact that Galton and Greg originally wrote without knowledge of each

[256] W. E. Hickson, "Laws of Population," *Westminster Review*, LII (October, 1849), 199.

[257] XII, 157–66, 318–27.

[258] See the *Spectator*, October 3 and 17, 1868.

[259] London, 1869.

[260] I, 167–80.

other's work[261] their views are on many points almost identical. Notably they both assail the practice which makes the prudent because of their very superiority restrict the births of the best human stock while the swarms of the sensual and reckless crowd them out. Galton, after having demonstrated the effect of delayed marriages on the rate of increase, proceeds to attack the Malthusian prescription of moral restraint. "If this doctrine influenced all classes alike," he writes, "I should have nothing to say about it here . . . . but, as it is put forward as a rule of conduct for the prudent part of mankind to follow, whilst the imprudent are necessarily left free to disregard it, I have no hesitation in saying that it is a most pernicious rule of conduct in its bearing upon race. Its effect would be such as to cause the race of the prudent to fall, after a few centuries, into and almost incredible inferiority of numbers to that of the imprudent, and it is therefore calculated to bring utter ruin upon the breed of any country where the doctrine prevailed."[262] Greg no less deplores the distorted selection by which civilization rejects its best products, and no less protests against the suicidal prudence which Malthus invoked. If it is less easy to find in his work than in Galton's a striking passage to single out for citation the reason is that his protest more inseparably underlies his whole exposition. It is as well not to carry citation further, for with the clear establishment of this new view of the Malthusian prudential restraint we are leaving the episode of Malthus and his theory and entering upon a phase of the study of population that is still in the process of working itself out.

[261] See *Enigmas of Life* (American ed.; Boston, 1873), p. 135.

[262] *Hereditary Genius* (1st ed.), p. 356.

Let us now glance back over the three-quarters of a century, more or less, through which the Malthusian controversy has been followed. The detail of preceding pages may too often have obscured the interrelation of different threads of criticism and failed to indicate the general drift of thought as time has gone on. A brief review may do service by showing the growth of the theory in its relation to the course of events.

Three periods may roughly be distinguished in the development under review.

The first period begins with the appearance of the *Essay* of 1798 and ends, approximately, with the year 1821. It is coextensive with the influence of Godwin and of the war. Godwin had prompted the *Essay*, and Godwin in 1820 had published his *Enquiry* as an attempt to give it the coup de grace of his final arraignment. The vigor of his attack aroused for a time a new onslaught by lesser critics here and there; but after a year or so the comment he had stirred up subsided, and it became apparent that the incident was only the flare of a candle that is going out. The opposition had not talked itself out, for talk is deathless; but the passing of a central figure left the guidance of further talk to altered circumstances. The Malthusian theory had been launched, it will be recalled, under a war cloud. The war had continued thereafter, without interruption long enough greatly to alter slow-changing social conditions, for seventeen years. Even when the war was ended conditions did not at once mend; especially because the return of peace brought confusion to that portion of British industry which had been developed out of the war-time advantage of freedom from invasion [and from foreign competition] which England had

enjoyed. Through nearly all this period, then, the English laboring classes had borne their share in the general burden of the war; suffered the particular evils that fall to wage-earners in time of suspension of specie payments and depreciation of currency, and felt keenly the high price of grain under restrictive corn laws. The industrial revolution still played havoc with the conditions of employment and the inadequacy of the system of poor relief became yet more manifest. The times were such, one would suppose, as manifestly to affirm the correctness of Malthus' analysis of the pressure of population and of the positive checks which ultimately keep numbers down. The acceptance which his views found was, in fact, widespread. The second edition of the *Essay* in 1803 was followed by a third in 1806, a fourth in 1807, and a fifth in 1817. But if approval was ready, disapproval was ready also. For the very reason that so many were plunged in squalid misery the masses had no patience and no inclination to hear the calm comment that they were imprudent to have fallen into such wretchedness. The downright, unsoftened tone of the first edition, explained by contemporary conditions, stirred a hot resentment, and so long as the poor and their spokesmen felt the burden of these same conditions they were little moved to notice gradual mitigations which Malthus incorporated into his book as the other editions followed. Animated—sometimes abusive—refutations marked this period; and since thus far the followers of Malthus, finding no need formally to reaffirm his opinions, added little to the substantial literature of the subject, these earlier years, despite important constructive criticism which they brought forth, may

be characterized as the period of refutation and bold acceptance.

The second period, perhaps rather an interim than a period with positive characteristics, may be taken as extending from 1822 through 1834. The latter year was marked by two signal events: the reform of the poor laws and the death of Malthus. The former year brought forth Place's *Illustrations* and the "Diabolical Hand Bill." Radicalism and organized class interest contributed the suggestions of physical varieties of the preventive check, which constitute the chief addition to the discussion during the period. They came as a culmination of the reforming movement which previously had been less blunt and less practical in its proposals. This development of an earlier tendency was accompanied by the beginnings of two movements which became conspicuous in the following period: namely, the publication of thoroughgoing affirmations of Malthusianism and the elucidation of the economic check. The second period, then, was characteristically transitional, and apart from the radical propaganda and Sadler's sporadic treatise it produced little constructive work.

The third period, beginning with 1835, after the death of Malthus, lasts until the appearance of the traits which mark the modern study of population, somewhere about 1870, though its termination is quite vague. Malthus being dead, the maintenance of his theses was left for others, and there grew up a body of commentators—the scholastics of population theory. Constructive writers also were numerous. The last period ranks at least with the first in originality. But the original (i.e., new) work was broadening in scope to such an

extent that it was supplementary to the conventional Malthusianism rather than a lineal part of it. The concept of differential selection is an example of the divergent threads of thought, and probably the most important. In essentials the third period was a period of stiffening economic orthodoxy in the theory of population, with a vital offshoot in the direction of the extra-economic theory of the present day.

The diffused intellectual atmosphere of the times, rather than more tangible current events, seems in some cases to have been the cause of changed attitude toward questions of population. Its influence appears in the varying lesson that was read from the pressure of population on subsistence and the consequent necessity of checks. When Malthus first wrote, and when his doctrines were held infamous for their alleged reflection upon the Divine ordering of human destinies, the sombre prospect of a lifelong struggle with want was brightened by an argument of religious cast to the effect that the physical suffering due to excess of numbers is in reality a process of mental and moral development. At the end of the original *Essay*, after two chapters which seem to have remained unknown to most of those who have professed themselves Malthusians, Malthus concludes: "Evil exists in the world, not to create despair, but activity."[263] Also religious in tone was the contention advanced in 1816 by John Bird Sumner, subsequently Archbishop of Canterbury, that the best possible earthly preparation for a future state came from the effects of the pressure of population in promoting and dispersing civilization and its virtues.[264] But when in the same year Weyland wrote that "the excess of

[263] P. 395. [264] *Op. cit.*, II, 172 ff.

population *just beyond the plentiful supply of the people's want*, instead of being the cause of most of the miseries of human life, is in fact . . . . the cause of all public happiness, industry and prosperity,"[265] he thought of it as a spur to production of food. Optimism was no longer theological, but had become economic. In economic form, and by the aid of such conceptions as that of the wages fund, the hopeful view developed. Chalmers had it.[266] Twiss had it.[267] John Stuart Mill wrote:

> Though the assertion may be looked upon as a paradox, it is historically true, that only from that time [i.e. from "the appearance of Mr. Malthus's *Essay on Population*"] has the economical condition of the labouring classes been regarded by thoughtful men as susceptible of permanent improvement. We know that this was not the inference originally drawn from the truth propounded by Mr. Malthus.[268]

McCulloch was yet more decided: "The principle of increase, as explained by Mr. Malthus . . . . appeared to form an insuperable obstacle to all permanent improvement in the condition of society."[269] "In point of fact, however, the principle of increase is not merely consistent with the continued improvement of the bulk of society, but is itself the great cause of the improvement, and of the wonderful progress made in the arts."[270] But with this flood-tide of economic optimism came a

[265] *Op. cit.*, p. 22.

[266] *On Political Economy in connexion with the Moral State and Moral Prospects of Society* (Glasgow, 1832), chap. iv.

[267] *Op. cit.*, pp. 93 ff.

[268] "The Claims of Labour," *Edinburgh Review*, April, 1845, reprinted in *Dissertations and Discussions* (London, 1859), II, 183.

[269] *Principles*, Preface to third edition (1843); fourth edition (1849), p. xiii.

[270] *Ibid.* (4th ed.), p. 238.

new turn: the suggestion of struggle and elimination from excess of numbers, put forward by Grahame in that same versatile year 1816 which saw Sumner's theological and Weyland's economic hopefulness, now found its fuller expression in the Darwinian hypothesis of the origin of species. Pressure of numbers had come to be reckoned good because it made for improvement of the type. Consolation had been drawn in turn from theology, economics and biology.

Phases of thought and facts of history alike visibly played their part in shaping the growing theory of the preventive checks. From the time when Godwin prompted Malthus to a larger faith in prudence the theory grew by modification and addition from without rather than by amplification from within; so that its developed form is the work of many constructive critics, and of the many periods they represent. At the start it would have been hard to claim the *Essay* for any one special field of learning. It was by origin a contribution to the discussion of speculative political institutions and it served to modify actual government policy in the relief of the poor. As a study of organic increase it would belong to biology: as a description of the limited production of subsistence it was a rudimentary chapter of economics. Some of its applications involve theology and morals. It might now be classified as sociology, either because of the notable treatment of the descriptive portions in the second and later editions, or, by those for whom sociology is essentially a co-ordinating science, simply because of the wide range of inquiry which it linked together by the one bond of a central human interest. But as it happened the science of economics was just at that time finding itself in England,

and so, when the Malthusian theory had once become fairly settled on its career it was found that the economists had absorbed it, and the study of population was by emphasis and tendency a quantitative comparison of human power to produce with human need to consume. The ranks of the opposition which launched its criticisms at the orthodox theory were on the other hand by no means regularly mustered from among economists. For a time their critical suggestions were utilized in rounding out the details of an analysis which might still be called essentially economic; but before long the economic theory showed signs of saturation and absorbed little more. From that time is traceable the conservatism which made professedly economic treatises on population more and more confine themselves to guarding the mummy of the Malthusian theory—revered, traditional, but lifeless because it did not continue to change to meet new conditions. With that time, too, begins the period in which the question of population has become so wide in scope and so manifold in practical relations and applications as to outgrow the limits of a department of economics. The preventive check passed through the school of the so-called radical economists to radicals who were not economists at all. An exaggerated spirit of social reform led to the recommendation of physical checks. The recognition that preventive checks resulted in a differential increase of population was doubtless facilitated by social changes which made rising in the world a more familiar spectacle than it once had been. The anomaly that wealth was antagonistic to propagation challenged investigation and caused preventive checks to be regarded less as remedies for poverty and more as factors of social un-

balance. But this concern for the adverse selective influence exercised by differential increase did not find full expression until new biological and political ideas had won public attention. It has been remarked that differential increase, long noticed, was slow to cause apprehensiveness regarding the quality of population. The reason seems to have been that existence of distinctions of hereditary quality in men—especially of mental quality—was not appreciated. But heredity was borne in upon the public consciousness by the great evolutionary teachings of Darwin, Wallace and Spencer; and almost coincidently the political reforms of the late sixties brought to conservative Englishmen with a sense of shock the realization that among men as they have grown up in a modern society there exist profound differences. If it was pre-eminently a biological menace which Galton perceived, it was apparently rather the political prospect which alarmed Greg. With the appearance of their books the theory of the preventive check had successively undergone in its development the influences of the economist, the social reformer, the biologist, and the politician.

The theory of population is in fact in peculiarly high degree relative; and its relativity is of twofold nature. First there is the objective relativity to observed conditions. This has not escaped the notice of contemporaries. It was perceived by Weyland,[271] Manning,[272] and Miss Martineau.[273] Malthus began the Preface to the 1817 edition of his *Essay* by remarking on the connection between the acceptability of his doctrines and the course of events. He was echoed by the newly won-

[271] *Op. cit.*, pp. xxi ff.

[272] *Op. cit.*, Preface.

[273] *Weal & Woe in Garvelock*, pp. 44 ff.

over *Quarterly Review*,[274] and his ideas were carried further by Lowe.[275] But contemporaries have been less conscious of the subjective relativity which is characteristic of the study of population. Proximately the comment that is made when numbers increase or decrease and the race-type appears to improve or decline depends on the point of view of him who makes it. The variety of comment thus possible is almost infinitely wide. For the unit of population is the human being who is also the unit in nearly every matter of human interest. Not unnaturally, then, observers regard population as an aggregate of units of those aims and possibilities and weaknesses which in the eyes of the observers stand for the moment as the pre-eminent human attributes, and they judge its increase or decrease accordingly. To the Spartan the unit of population was the militant citizen, and increase of population meant political strength by military success. To the early Christian the unit was the embodied soul undergoing preparation of trial for a future state, and increase was indifferent compared to the moral value of celibacy as an ascetic ordeal. To the mercantilist the unit was a trafficker and taxpayer and increase was national wealth in the sense of that period. The English economists thought of consumers and want; the modern Frenchman thinks of recruits and the larger standing army over the border. We of the present in the United States scrutinize the politically equal citizens of a democracy and lament the immigration and the differential birth-rates that threaten inequality of men. New points of view have come and will come. Each is tribute to the relativity of our opinions on population.

[274] XVII, 401. [275] *Op. cit.*, pp. 201, 205, 207.

This twofold relativity goes far to explain the seeming contradictoriness of successive phases of the discussion. Logical analysis, once attained, has persisted with little change because truly logical work involves abstraction from the bias which shows itself in mere comment and the recommendation of immediate practical remedies. The theory of population has changed less than the opinion of seekers for solutions of practical problems. We may imagine the existence of a law of population, expressing the fundamental relation of human increase to the conditions under which men must live. This relation changes but slowly, with changes of human constitution and the changes, partly resultant, partly parallel, which occur in the human habitat. The theory of population is our approximation to a knowledge of that law. It changes as our approximation becomes more complete; and it may be assumed that it will therefore change less and less as time goes on. But practical problems of population have arisen and continue to arise whenever and wherever there are local, temporary and special conditions and points of view. A problem is a problem until it is recognized that the particular case is explained by a general principle already traced. If the law of population is ever found out, the problems will cease to confuse our literature. But it is safe to affirm that answers of various and even contradictory purport will continue to be advanced as solutions of these problems so long as there are differences of the material conditions of life and so long as men change their minds.

*

II

INDIVIDUATION AND PARENTHOOD[1]

The question which we have to discuss [individuation and parenthood] is a very large question and a very vague one. I shall confine what I may say to an attempt to make it less indefinite by suggesting one or two distinctions—by pointing out not an answer but a more specific problem to be solved.

The original query which Professor Hagerty has considered in his paper—"How Far Should Members of the Family Be Individualized?"—includes within its scope at least two questions. If we assume the continued existence of the family substantially in its present form we may inquire how we should divide and adjust the functions of family life among the members of the family, and how far the members as individuals, and especially the man and the woman, should in their family relations be regarded as equal in responsibilities and rights and in all that they are to give and to gain. That is one of the questions, and that is the one which Professor Hagerty seems chiefly to have had in mind. The other, which challenges what was before assumed, is this: Is an increase of individualization consistent with the continued existence of present-day family life? Such an inquiry suggests Spencer's familiar antithesis of individuation and genesis. Briefly Professor Hagerty has

[1] Discussion of a paper on "How Far Should the Members of the Family be Individualized?" read by Professor J. E. Hagerty before the American Sociological Society, December, 1908. Reprinted from the *American Journal of Sociology*, XIV (May, 1909), 810–12.

alluded to this phase of the problem by mentioning the effect of the higher education of women upon marriage and the rearing of children—though it is by no means only through woman that the dictates of individual ambitions may disrupt the normal family group. But I believe that this second form of the question is too important to be so casually passed by. It demands attention if we but consider the real purport of further individualization. For, to the ordinary person, the thought of individual development means more than equivalence of privilege within the family. The individualization we strive for is an ideal individualization which means freedom in every way to develop and to do. It means achievement and a successful career. Consequently we must seek to see what distinction can be drawn between the standard of individual success and the qualification for parenthood.

To command the esteem of others a person must first of all show affirmative characteristics. It is not enough to go through the world harmlessly. We admire the person who takes the active attitude toward his surroundings and does things—who makes a mark that compels us to recognize him as a center of energy which he can direct as he chooses. Such masterfulness is admired even if it is exercised to the detriment of others; but to command genuine approbation it must serve the general advantage. Success, then, is essentially measured by the reward, in goods or in good repute, given for positive acts of service. It comes as a sort of equivalent, in exchange. And here, as in other cases of exchange, it is easy to look too narrowly at the return and to miss the significance of what is given. So, in the effort to attain success, as success is judged, persons are led to

excessive specialization and intensity of effort. This amounts to a process of self-exploitation, which, though it is destructive to those who thus overwork, seems to be acceptable to society, since the continual renewal of the stock by reproduction and the spread of ideas by imitation permit unexhausted persons to take up the unfinished tasks where their predecessors were obliged to drop them. The pursuit of individual success, then, really often involves, as a response to the demands of others, the sacrifice of what may still be regarded as the normal individual life.

The qualification for parenthood, on the other hand, is pre-eminently the even balance of abilities. The life of the specialist is ill-suited to parenthood, whichever of the functions of the parent we may emphasize. As the source of hereditary traits in the child, the parent should, so far as we can venture to decide, be all-sided, not one-sided. For the training and rearing of children unimpaired physical health is requisite. For the education of children in the home extreme specialists are not desirable unless we assume that the innate aptitudes of the child fit him for a special career which closely corresponds to the equipment of both his parents, and that such a career will be appropriate to future conditions as to past. But this inquiry into the qualifications for parenthood, perplexed at best, need not be pushed far here. Whoever, by specialization, becomes a distortion of the normal biological type, may fairly be regarded as poorly equipped for the essentially biological function of maintaining the race.

In the light of the distinction that has been suggested we may predict either that our present view of the family relations must undergo extensive change or that

the further progress of members of the family in individualization, as this is commonly understood, will sooner or later be limited by the necessity of maintaining the species. Assuming that the family is likely to retain essentially its present form, higher and higher specialization by individuals will take us toward the point at which the reproducing of the stock will cease and the generation which stands to benefit by the sacrifices of specialists will not longer exist to justify or encourage these sacrifices. Without being pessimistic or radical one may therefore suggest that if increasing individualization is not to become a cause for concern we should revise our standard of success until it is more in accord with the living of normal lives.

III

THE EARLY PROPAGANDIST MOVEMENT IN ENGLISH POPULATION THEORY[1]

Notoriously, the birth-rate in countries of our civilization has for years been falling. Notoriously, too, a chief factor in this decline of the birth-rate has been the spread of so-called neo-Malthusian practices which render the fertility of marriage almost completely subject to voluntary control. The wide extent of these practices is not always recognized, and can be only vaguely known; but in proportion to the adequacy of our information we must acknowledge that a sudden substitution of rational calculation for instinct as the influence determining human increase constituted, for good or for ill, one of the profoundest social changes of the last century. Despite its importance, the history of the movement has remained obscure.

In countries where the English language is read and spoken the general diffusion of neo-Malthusian ideas is commonly traced back to the noisy publicity of the prosecutions which were carried on in England in the years from 1876 to 1878, culminating in the trials of Charles Bradlaugh and Mrs. Besant, and of Edward Truelove, charged with offending against public morals by offering for sale Dr. Knowlton's book, *The Fruits of Philosophy*. But this book and others of similar

[1] Paper read before The American Economic Association, December, 1910. Reprinted from the *American Economic Association Bulletin*. 4th Series, No. 2 (April, 1911.)

purport, which like it were effectually advertised by the scandal of the trial, had been first published decades before the ill-judged attempt to suppress them. The checks to population which they advocated were not newly devised. It is abundantly clear that the precursors of the neo-Malthusian movement established an active propaganda in England in the decade of the 1820's, when, after the shock of the industrial revolution, the shattering idealism of the Revolution in France, and the burden of the French war, the British populace was straining in so many ways to fit itself to its new economic situation.

The present paper is an attempt to give an account of the beginnings of such propagandism in England. It is only a fragment: a tentative study of one episode in the development of population theory since Malthus. The source from which it has been chiefly derived is the unique and invaluable collection of manuscript records, newspaper clippings, and fugitive printed matter gathered by Francis Place. This material, though unfortunately somewhat scattered, has found its way partly to the library of Professor Seligman, but principally to the British Museum, where it fills some two hundred and fifty bulky volumes, and comprises references to nearly every social problem which was stirring in the early nineteenth century. Buried in the mass, almost unknown, are documents revealing contemporary efforts to promote the use of artificial means for the restriction of births. Half revealing, one might better say, for apprehension of public censure has from the first operated to keep the record obscure. The narrative based upon such documents as are at hand will doubtless require amplification, and perhaps considerable correction, by the results of further study; but pro-

visional as it is, I venture to lay it before you in the hope that it may shed new light on the beginnings of our present-day problem of the declining birth-rate.

When Malthus published, in 1803, the second edition of his *Essay*, he made a most important departure from his former classification of the checks by introducing, expressly and with new emphasis, the concept of moral restraint. The first *Essay* had depicted the menace of population for purposes of destructive argument: the second took the form of a treatise on population by and for itself; and so, in revising the work, Malthus was moved to indicate not only the difficulties of the situation which he saw, but also his hope of a way out. This hope, such as it was, lay in moral restraint. By moral restraint Malthus meant, as he expressly stated in the last edition of the *Essay* published during his lifetime, "a restraint from marriage, from prudential motives, with a conduct strictly moral during the period of restraint." From this meaning, he insisted, he had never intentionally deviated.[2]

The idea of restraint *in* the marriage relation was in fact foreign to Malthus' doctrine. He warmly repudiated the allegation that he advocated anything of the sort. The usage which has connected his name with neo-Malthusianism and its devices is therefore but an example of the irony which the course of scientific thinking has in store for those whose influence proves too far-reaching to remain within the limits of their own mental horizons. Malthus' spirit of reform stopped at the threshold of marriage. He was radical enough in interposing difficulties between the desire to marry and

[2] Sixth ed. (London, 1826), I, 15 n.

actual marriage; but once persons were married he left them to the undisturbed guidance of the ethical sanctions which religion and custom had provided. However inharmonious and illogical some elements of the traditional idea of the marriage relation might have seemed if tested by his criterion of utility, he did not call them into question. The advocates of the radical check see in this a failure to carry his principle to its logical and serviceable conclusion. This, in the words of Meyerhof, was the mythological cuckoo's egg in the nest of exact science.[3] But it may well be that Malthus was wiser than the unconsidering fanatics among the prophets of population reform who fling their upstart logic in the face of established social customs.

From other quarters the proposal of more direct checks on population was not long in forthcoming. Guardedly it found a way into the *Encyclopædia Britannica* Supplement, in James Mill's article "Colony," published in 1818. There Mill wrote, in an often-cited passage concerning "the best means of checking the progress of population":

> And yet, if the superstitions of the nursery were discarded, and the principle of utility kept steadily in view, a solution might not be very difficult to be found; and the means of drying up one of the most copious sources of human evil . . . . . might be seen to be neither doubtful nor difficult to be applied.

Three years later, in the first edition of his *Elements of Political Economy*, Mill, treating of population, speaks of

> . . . prudence; by which, either marriages are sparingly contracted, or care is taken that children, beyond a certain number, shall not be the fruit.[4]

[3] "Hans Ferdy," *Sittliche Selbstbeschränkung*, p. 10. [4] P. 34.

And in the same work he concludes:

The grand practical problem, therefore, is, to find the means of limiting the number of births.[5]

The *Edinburgh Review* ventured more than a hint in the same direction.[6] Thompson, in 1824,[7] advocated some sort of preventive artifice. But a more outspoken declaration had in the meantime come from Francis Place. In his *Illustrations and Proofs of the Principle of Population*, published in 1822, reviewing various ways in which the evils of excessive population might be mitigated, he delivers this noteworthy pronouncement:

If, above all, it were once clearly understood, that it was not disreputable for married persons to avail themselves of such precautionary means as would, without being injurious to health, or destructive of female delicacy, prevent conception, a sufficient check might at once be given to the increase of population beyond the means of subsistence; vice and misery, to a prodigious extent, might be removed from society, and the object of Mr. Malthus, Mr. Godwin, and of every philanthropic person, be promoted, by the increase of comfort, of intelligence, and of moral conduct, in the mass of the population.

And Place adds prophetically:

The course recommended will, I am fully persuaded, at some period be pursued by the people, even if left to themselves.[8]

But the people were not left to themselves. By the following year an active propaganda had already begun.

One evening in July, 1823, a mysterious parcel was handed to Mr. Taylor, editor of the *Manchester Guardian*, with a note asking that he be so kind as to see that it was delivered to Mrs. Mary Fildes—known for her

[5] P. 51.

[6] In a review of Cobbett's *Cottage Economy* [by Jeffrey], XXXVIII, 125.

[7] *An Inquiry into the Distribution of Wealth*, pp. 547–50. [8] P. 165.

interest in the welfare of the working classes. With this request Mr. Taylor complied. When Mrs. Fildes opened the package she found a number of copies of what was subsequently called "the diabolical hand bill": a small leaflet, unobtrusively and almost elegantly printed, addressed *To the Married of Both Sexes*, setting forth the economic burden of an excessively large family, and describing with frank simplicity means of preventing conception. With the leaflets was an anonymous note which ran as follows:

London July 8th 1823

To Mrs. Fildes

Madam

The Bills enclosed with this note are sent to you, as to an experienced, sensible, discreet woman, having much influence in her neighbourhood, to one, who has shewn herself the ardent friend of the working people. You Madam must be well aware, that numberless evils are produced by too large a family, not only as it makes the working man & his wife poor, but breaks their spirits, & qualifies them to be ill used & trampled upon by those who are richer.—If you will give one of the Bills to each of such married women as in your opinion may be usefull you will confer on them a great benefit. The method recommended is getting fast into use amongst the working people in London, & will in a very few years produce the happiest consequences . . . . . Mr. Carliles people know nothing of the contents of the parcel, but should you be pleased to notice it, have the goodness to direct to Mr. James at Mr. Carliles No. 5 Water Lane Fleet Street London the letter will be called for, any number of bills you may desire to have shall be sent to you

by a sincere well wisher
to the working Classes.[9]

[9] Letter from Mary Fildes to "Mr. Richard Carlile, Dorchester Gaol . . . . ," Place Papers, British Museum (Hendon), Vol. LXVIII. [Place's "guard-books," containing for the most part newspaper clippings, are kept at the Hendon storage building of the British Museum newspaper room. Reference to these volumes in subsequent notes of this article will be made in abbreviated form: e.g. "Vol. LXVIII, Hendon".]

It is stated that Mrs. Fildes ultimately became an advocate of the practice thus suddenly brought to her notice.[10] At first however, outraged and indignant, and unable to fix the responsibility on Mr. Taylor,[11] she reported the happening to the Attorney General. Six weeks later, having received no answer, she addressed herself to Richard Carlile, who, for his zealous efforts to establish the freedom of the press, was at that time in Dorchester Gaol, in his characteristic state of imprisonment. Her letter, which begins with a brief narrative of the episode of the handbills, and an outcry against the indignity she had suffered, concludes thus:

. . . I feel indignant at the insult which has been offered me; Is it possible that this infamous handBill has issued from the encouragers of the doctrines of the cold blooded Malthus or [his] servile supporter the detestable Lawyer Scarlett?

I have no redress but what is afforded me through the medium of a free press; I submit this infamous transaction to you under a hope that you will give it that consideration which (I think) so flagrant an attack upon the morals of the community demands; hoping that you will expose the propagators of this infamous hand Bill

I am Sir
yours very Respfy
Mary Fildes[12]

The story of the handbills was given publicity through Wooler's paper *The Black Dwarf*. Wooler did not approve the principle of the handbill; but inasmuch as he conceived that it was his function to insure the open discussion of topics which were in danger of being suppressed, he published Mrs. Fildes' letter and also re-

[10] G. J. Holyoake, *Sixty Years of an Agitator's Life*, I, 130; and *The Republican*, XI, 561.

[11] Cf. *Black Dwarf*, XI, 461–64; J. E. Taylor, *To the Public* (1823).

[12] Letter to Carlile, as cited above.

printed the contents of the handbill itself, with the anonymous note which Mrs. Fildes had found in the package.[13]

The authorship of these strange leaflets naturally became a matter of curious speculation. A pamphlet on *The History of the Diabolical Hand Bill* was issued in Manchester, championing the cause of Mrs. Fildes,[14] and presenting a circumstantial narrative of the facts in the case with more or less obvious bias of hostility to Mr. Taylor. He, however, had succeeded in disclaiming responsibility in a letter to the *Black Dwarf*,[15] which he subsequently republished, together with other correspondence, in a leaflet addressed *To The Public*.[16] Far more important, therefore, were allegations which ascribed the handbill to Robert Owen, the philanthropist-reformer of New Lanark.

The first public reference to Owen in this connection occurs in the *Black Dwarf* of October 1, 1823, to which one James Macphail communicated the following extract from an anonymous letter which had been received by the editor of the *Labourer's Friend:*

> You, I am sure, will give that truly benevolent man, Mr. Robert Owen, credit for good intentions, whatever opinion you may entertain of me, as an unknown correspondent. I will therefore relate an anec-

[13] *Black Dwarf*, XI, 404–11; September 17, 1823. For Wooler's attitude, cf. Taylor, *To the Public*.

[14] *The History of the Diabolical Hand Bill, for checking Population; With the various Correspondence which has taken place, on this subject with Mrs. Fildes, Mr. J. E. Taylor, The Attorney General, Mr. Wooler, and Mr. Carlile, With an interesting Statement from the latter respecting Mr. R. Owen, the Lanark philanthropist!! With observations by A. Clark* (Manchester: published and sold by T. Crabtree, 1823).

[15] XI, 461–64.

[16] "Printed at the Guardian Office, Manchester," and dated October 8, 1823.

dote respecting him. It was objected to his plan that the number of children which would be produced in his communities would be so great, and the deaths from vices, misery, and bad management, so few, that the period of doubling the number of people would be very short, and that consequently in no very long period his whole plan would become abortive. Mr. Owen felt the force of this objection, and sought the means of averting the consequences. He heard of the small number of children in French families compared with English families. He knew from authentic sources that the peasantry in the South of France limited the number of their progeny. He knew that while our unfortunate countrymen were reduced to pauperism, and to six shillings a week wages, the peasants in the South of France received 2s. 6d. a day, which in their fine climate, and with their abstemious habits, enabled them to live in the most comfortable manner. He knew that these people were cleanly, simple and well provided with everything desirable in abundance, and he knew also that they married young. Mr. Owen resolved to ascertain the means by which this desirable state was produced and maintained. He went to France, discovered the means which prevents too rapid a population, and he brought back with him several [specimens of the contrivance there in use], two of which he gave to his friend who had been the cause of this inquiry. Mr. Owen no longer feared a too rapid increase of the people in his communities; he saw at once what to him was most desirable, the means of marrying all his people at an early age, and limiting their progeny to any desirable extent. Ask him, and he will acknowledge what is here asserted. Do not then condemn this virtuous man to punishment here and hereafter, because he entertains opinions which you call abominable. What Mr. Owen saw would be the greatest of all evils in his communities, is the greatest of all evils in the great community of this nation; and is tenfold increased in the community which composes the Irish people.

The source of this surprising statement is hardly less interesting than its unequivocal character. Almost certainly it emanated from no less an authority than Francis Place. For among Place's manuscript copies of correspondence are to be found drafts or transcripts of the letters to the editor of the *Labourer's Friend*, from

one of which Macphail had extracted the Owen anecdote. With them is the manuscript of an anonymous letter to the *Black Dwarf*, explaining, as Macphail had not deigned to explain, the purpose of the anecdote in its original context.[17] The details of the anecdote are essentially repeated, if not confirmed, in Carlile's letter to Mrs. Fildes, printed in *The History of the Diabolical Hand Bill.* Impliedly, the story had come to Carlile's knowledge some time before. But the strongest testimony to its authenticity comes from the reflection that Place was through his friendship with Owen and through his position in the propaganda preëminently likely to know the facts of which he spoke.

Such allegations contrast strangely with the prevailing view of Owen's biographers,[18] strongly supported by his own writings—the view that he denied the Malthusian principle of excessive pressure of population against the limits of subsistence. Possibly the secret knowledge that stringent preventive checks were in use at New Lanark, if such really was the case, made it easier to assert that overpopulation need not be feared by the social reformer. Possibly there is significance in the statement of Malthus, first published in the fifth edition of the *Essay* in 1817, that Owen was "fully sensible"

[17] A portion of Place's anonymous letter was printed in the *Black Dwarf*, of October 8 (XI, 505–8).

It is true, of course, that copies of unsigned letters are not in themselves absolutely conclusive of the authorship. Every indication, however, marks these letters as the work of Place. The omission or modification of certain passages makes it clear that the Place copies were not taken from the printed version. There is no reason to regard them as the work of any person but Place.

[18] Cf. Holyoake, *Sixty Years of an Agitator's Life*, I, 131; *Dictionary of National Biography;* Podmore, *Robert Owen*, I, 225 n.; as well as Owen's autobiography and other writings.

of the difficulties which must be experienced from the principle of population in any attempted state of equality of possessions; and that, although he had "in consequence taxed his ingenuity to the utmost to invent some mode" of evading the difficulty, he had only demonstrated his "absolute inability to suggest any mode of accomplishing this object that is not unnatural, immoral, or cruel in a high degree."[19] One contemporary professed to believe that the controversy between the Rev. Mr. Menzies and Robert Owen touching sexual morality at New Lanark was a sign that the French check had been put into operation there.[20] It is certainly true that Owen traveled in France in 1818. During his further journey through Switzerland he records[21] a "mutually interesting" conversation with Sismondi, whose *Nouveaux principes d'économie politique*, published in 1819, contained—through perhaps by mere coincidence—a remarkable chapter on the moral duty of continuing prudential restraint after marriage. Owen's own son was later the author of a book prominent in the literature of neo-Malthusianism; and his book was in due course announced in the pages of *The Crisis*, of which father and son were joint editors.[22]

The *Black Dwarf*, in making public Macphail's communication, had remarked that the charge seemed "to require a contradiction from Mr. Owen, if it be untrue."[23] The contradiction never came. Holyoake is satisfied, on this ground, that Owen was the author of the hand-

[19] Book III, chap. iii.

[20] *History of the Diabolical Handbill*, pp. 13–14. Cf. *Black Dwarf*, XI, 437.

[21] In his *Life*, I, 173.

[22] In the issue for October 27, 1832, and the following issue.

[23] XI, 499.

bill.[24] The evidence does indeed go far to establish Owen's approval of the methods which the bill described; but more is not proven. For plainly, if he favored the principle, any attempt on his part to deny that he had so promulgated it would have been hazardous and probably futile.

Search elsewhere for the authorship of the handbills gains a clue in the allusion to Owen's "friend who had been the cause of this enquiry." By friendship and by professed opinion either James Mill or Place was qualified to have played this part. Place was Owen's friend; Place had urged that excessive population would prove the undoing of the New Lanark experiment;[25] and Place it was who, by his anonymous letter, was showing himself familiar with Owen's alleged action. That Place was a most active and persistent circulator of the literature of the new check will presently be shown. Was he perhaps the author of the *Diabolical Handbill?*

Among Place's papers the handbill is to be found in three forms: the form which was sent to Mrs. Fildes, and two others, apparently later differentiations of the original,[26] and headed, respectively: *To the Married of Both Sexes of the Working People*, and *To the Married of Both Sexes in Genteel Life*. On these no name appears; though it was Place's custom to indicate the authorship of the documents he preserved. In addition to the printed handbills there is a manuscript of another bill "To the mature reader of both sexes."[27] The handwriting is unlike that of Place; the ink is of a

[24] *Sixty Years of an Agitator's Life*, I, 130.

[25] See, e.g., a letter to Thomas Hodgskin, dated September 8, 1819. British Museum, Additional MSS 35,153, ff. 68–72.

[26] Cf. *The Republican*, XI, 561.

[27] Vol. LXVIII, Hendon.

kind which he did not ordinarily use; the subject matter is pervaded by a naïve physiology, with almost no appeal to economics. Below, as if supplied by Place, is the name Benjamin Aimé. The Triennial Directory of London for 1822 lists Benjamin Aime (without the accent) as a musical instrument maker of 3 Panton street, Haymarket. Whether or not Benjamin Aimé was the author of this draft, his connection with the handbills actually printed is doubtful.

Two allusions to the authorship of the bill occur in Place's letters. On July 12, 1823,—four days later than the date of the note sent to Mrs. Fildes—Place wrote anonymously to the editor of *The Labourer's Friend*,[28] arguing that the means of improving the condition of the laboring classes was restriction of population according to the "method recommended in the bill inclosed with this." "The bill," he added, "is not exactly such an one as I should bestow unqualified approbation upon, but [is] such as I have received[29] it, and as such I send it." Another letter in Place's handwriting and manner, unsigned, unaddressed, and undated, but most probably written in 1824,[30] contains the statement: "In order to do my part towards . . . . . restoring a more prosperous and happier state of society, I have caused to be printed and have forwarded to you some bills. . . . . ."[31] Such evidence as is given us by these two letters is

[28] Included in the communication to the *Black Dwarf* of October 1, 1823. Place papers, Hendon, Vol. LXVIII.

[29] This crucial word "received" is obscurely written, but careful comparison with other occurrences of the same word justifies the reading given.

[30] This date is suggested by a reference to a report to Parliament on parish conditions of pauperism, and a resemblance to the letters referred to below, p. 113.

[31] Vol. LXVIII, Hendon.

therefore at first sight contradictory. The wording of the earlier letter, however, may be not so much a denial of authorship as an evasion of responsibility, not surprising at a time when the propaganda was newly feeling its way. The later letter does not rule out the possibility that Place, instead of having himself written the handbill, may have "caused it to be" written as well as printed.

The two statements might be reconciled, though each were accepted in its most obvious meaning, if it were assumed that they referred to different forms of the bill and that these were the work of different persons. Probably they did in fact refer to different forms of the bill. The first letter is known to have transmitted the same bill which had been sent four days previously to Mrs. Fildes:[32] the conjectural date of the second would rather correspond with the period of the revised versions. The suggestion that the revision was performed by a new hand receives some support from internal evidence. Place's workmanship is unquestionably less apparent in the original handbill than in the adaptations for the genteel and for the working people, which manifest, not only in their general argument but in idiosyncracies of word and phrase, a striking resemblance to his authentic writings. Opposed to this hypothesis is the testimony of contemporary judgment. Cobbett found "that there were *three* separate productions of this sort all proceeding from the same source"; and Carlile, after four years of correspondence with Place, reprinted all three handbills with the admission that he knew "whence these papers emanate."[33] If the several forms

[32] *Black Dwarf*, XI, 500.

[33] *Cobbett's Weekly Register*, Vol. LVIII (April 15, 1826), col. 137. *Every Woman's Book*, p. 11.

had a common authorship it is more likely that Place wrote all than that he wrote none.

Geographically, too, the trail of the handbill leads toward Place. The propagandist literature emanated, according to all the evidence at hand, from some person or persons in London. In the Benjamin Aimé manuscript for instance, one reads that "some respectable persons in the metropolis of this country, ... have enquired after a means which is here unfolded." The handbill, in its earlier days, circulated among the Spitalfields weavers.[34] Cobbett, attacking it, remarks: "I have been told, and I *believe*, that it was *printed for one of the Rump*"[35]—that is to say, the "Westminster Rump," the radical political group dominated by Place. Mrs. Fildes' package had seemingly come to Manchester from London. The note within the package was dated in London, and mentioned the rapid spread in London of the check it recommended. Indeed the evidence of this note is perhaps more specific still; for its language suggests that it was written by Place,[36] and Mrs. Fildes' letter to Carlile, protesting against it and against the leaflets which accompanied it, is to be found among the papers of the Place collection.[37]

Others of the Place papers serve to mark their collector as one peculiarly associated with the handbill and its doctrine. A remarkable communication in a laboriously disguised hand, without definite address, tacitly

[34] Carlile, in the *History of the Diabolical Hand Bill.*

[35] *Cobbett's Weekly Register*, Vol. LIV, col. 108.

[36] It is, however, recorded that a certain guest of Mr. Taylor, whose name is not mentioned, failed to recognize the handwriting of any of the "London Radicals" in the note asking Mr. Taylor to deliver the parcel. Cf. *Black Dwarf*, XI, 462.

[37] Vol. LXVIII, Hendon.

addresses itself to "The author of the scheme for propagating by the secret distribution of printed papers the knowledge of the means to be used for preventing conception. . . . . "[38] An anonymous, illiterate appeal to Carlile for information about the method of prevention is here, as if referred to the source of information.[39] Especially interesting is a journalistic tilt between the editors of two working-class periodicals of the time. *The Trades' Newspaper and Mechanics' Weekly Journal* of August 27, 1825, had denounced, as violations of public decency, "certain 'detestably wicked practices' recommended for the adoption of the working classes, by a class of political meddlers who call themselves Political Economists. . . . . "[40] The *Artizan's London and Provincial Chronicle*, on September 4, replied, with more of loyalty than of judgment:

t would be idle affectation not to appear to understand at whom this assassinly paragraph is levelled! It is a *rival* of the vengeful EDITOR; he author of a volume printed in 1822, entitled *"Illustrations and Proofs of the Principles of Population;"* a work in the highest degree alculated to improve the condition of the working classes. . . .

A week later the vengeful editor rejoined as follows:

How far *Mr. Journeyman* is in the right in claiming for his friend nd correspondent, the credit of advocating those detestable practices hich we have denounced, will depend on the answers which he may e able to give to the following queries:—

Is the author of the "Illustrations and Proofs of the Principle of opulation," published in 1822, the author also of a small hand-bill, ntitled, "A MATRIMONIAL INDEX to the POPULATION TABLES, shewng at one glance, the State of the existing Supply and Demand for abourers," and which being too small for sale, and designed besides or extensive circulation among the poorest of the community, was

[38] *Ibid.* [39] *Ibid.*

[40] This summary statement is from the *Trades' Newspaper* of September 11.

distributed gratuitously in the form of wrappers to farthing candles, and half ounces of snuff?

Is the author of the "Illustrations and Proofs," the author also of a "MARRYING MADE HARMLESS, a Dialogue between Frank and Sally, Two Servants out of Place," price 2d. or 10s. per hundred [?]

Is the author of the "Illustrations and Proofs" the author also of a short paper which appeared in one of the last numbers of Mr. Wooler's paper, pointing out in plain enough terms certain French methods of having only as many children as you please; and which paper was printed in a separate form for more general circulation?

Is the author of the "Illustration[s] and Proofs," the author also of a letter which appeared but the other day in the *Morning Chronicle*, on "PROFITS AND WAGES," in which the writer is pleased to say, that "it is worse than useless, it is exceedingly pernicious to lead any body to suppose that ANY THING SHORT OF A REDUCTION IN THE NUMBER of the people can procure them good wages," and that there is "by far too much *squeamishness* amongst us," as to the means of effecting that reduction?

Was it the author of the "Illustrations and Proofs," who employed certain young gentlemen (only think of employing *young* gentlemen on such a mission) to hand about at market time among the wives and daughters of mechanics and tradesmen, copies of one or other of the productions aforesaid, and which young gentlemen were, for their pains, dragged by an indignant crowd before a Magistrate, and held to bail, (though by some well-understood manoeuvring, never brought to trial) for the misdemeanour?

If *Mr. Journeyman* can reply in the *negative* to every one of these queries—if the author of "The Illustrations and Proofs of the Principle of Population" is the author of none of the aforesaid productions, and has had no hand whatever in promoting the circulation of all or any of them, then all we have to say is, that *Mr. Journeyman* has done him great injustice in supposing that he is the individual at whom our paragraph was levelled. He has clapped a hat on his correspondent which does not belong to him.[41]

[41] *The Trades' Newspaper and Mechanics' Weekly Journal*, Sunday, September 11, 1825, in Place papers, Hendon, LXI, 52.

The *Morning Chronicle* article on "Profits and Wages" was signed "F. P." and is acknowledged by Place (Place papers, LXI, 50). I have no other knowledge of *A Matrimonial Index* or of *Marrying Made Harmless*.

In view of all the evidence here presented, and until more conclusive evidence is forthcoming, we may adopt the working hypothesis that the *Diabolical Handbill* in its original form was written possibly by Robert Owen, but more probably by Place or some other person within the circle of Place's connection; and that the bills addressed respectively to the Working People and to those in Genteel Life were probably later versions by Place himself.

Whatever doubt enshrouds the relation of Place to the handbills, his persistent and zealous efforts in the dissemination of the views they expressed are clear beyond question. Such a career of propagandism was quite in character with Place's enthusiasm for organizing social reforms, and with his dogged courage in championing whatever cause his principles pointed out to him. The conviction that overpopulation was the root of economic ills—"the master evil"[42]—had been deeply impressed on him in the experience of his own earlier years.

Fortunately the story of Place's life has been so well told by Mr. Graham Wallas[43] that a mere allusion to its outlines will suffice us here. He was born, in 1771, in a London private debtor's prison. His father, the keeper of the prison, was a brutal, dissolute man, and an inveterate gambler, who frequently deserted his family and who, after making scant provision for his son's early education, in a passing fit of temper turned him over as apprentice to the master nearest at hand—a drunken maker of leather breeches. The boy, left to

[42] Letter to Miss Martineau, Add. MSS 35,149, f. 189*b*.

[43] *The Life of Francis Place, 1771–1854* (London, 1898).

himself, spent his evenings in the low companionship of the streets. His marriage to a girl not yet seventeen years old, before he himself was twenty, proved the great moral influence of his life, and lifted him, smirched but not deeply stained, from the mire of his past surroundings. But marriage brought economic burdens also; and when, two years later, a strike left him, his wife, and his child on the wretched verge of starvation during eight months in which he could find no work, he passed through an acquaintance with misery that never faded from his mind, and colored all the economic opinions of his later career.

Gradually, by indomitable spirit and prodigious industry, Place worked himself upward, through various vicissitudes, to the position of a prosperous master tailor. In a room behind his shop at Charing Cross he had accumulated a remarkable library; and here, to consult his books and him, came many of the notable politicians and men of letters of the day. By the time he became prominent as a writer on population he was a man of fifty already retired from business with a comfortable income, deeply versed in the economic and political views of the time, and exercising a quiet but far-reaching influence as an organizer of social reforms.

The population question had long interested him. In a letter of the year 1833[44] he writes:

> My attention was called to the Principle of Population soon after Mr. Malthus published the first edition of his Essay and I have ever since been a careful observer of and a diligent enquirer into the habits and circumstances of the working people, and especially in regard to the consequences of population amongst them.

[44] To W. F. Lloyd, Add. MSS 35,149, ff. 229–30.

The conclusions he drew from his inquiries were fundamentally in accord with the orthodox economics. The excessive power of increase in mankind he held indisputable. The laboring classes were depressed by excess of numbers: only through better adjustment of numbers to the conditions of employment could they hope to rise. Conditions of employment in turn were limited by the amount of available capital. Except as additional capital could be accumulated and utilized, population must be kept down by the operation of some check; and, as Place wrote before the days of the propaganda, "the Messrs. Vice and Misery, of Malthus, is the only firm that can keep them down at all."[45]

The Malthusian recommendation of moral restraint, in the sense of long-delayed marriage, was in Place's eyes an utter absurdity. His own early marriage had been his salvation. He had failed to live decently in celibacy even to the age of nineteen: and, for the man of the laboring class who awaited assured means of supporting a family before taking a wife, the horror of this youthful experience foretold to him hopeless immorality. But experience no less emphatically warned him that early marriage meant many children. He himself, it is recorded,[46] was the father of fifteen, of whom five died in childhood. James Mill, who antedated him as a herald of neo-Malthusianism, had, while still struggling for a precarious living, nine children: "conduct than which nothing could be more opposed, both as a matter of good sense and of duty, to the opinions which,

[45] Letter to G. Ensor, January 18, 1818. Add. MSS 35,153, f. 41.

[46] Wallas, *Life of Francis Place*, p. 38; and article: "Francis Place," in the *Dictionary of National Biography*. But on p. 194 of the *Life* the number is given as fourteen.

at least at a later period of his life, he strenuously upheld."[47] Small wonder, with Place's experience of discreet paternity, that he should write a little bitterly to Ensor[48] of "moral restraint, which has served so well in the instances of you & I—and Mill, and Wakefield—mustering among us no less I believe than 36 children— . . . rare fellows we to teach moral restraint."

So stood Place the reformer, between the devil of vice and the deep sea of misery, ready material for conversion to advocacy of the new form of preventive check.

The dawning idea of artificial restriction may conjecturally be dated from 1818—the year of James Mill's "Colony" article, and Owen's visit to France. The development of active propagandism was later: the date of Place's book and a statement in one of the handbills,[49] taken with other evidence,[50] suggest as the most probable date the middle of 1822. Meantime the evidence shows that Place was seriously studying the subject. Critical notes on the 1817 edition of Malthus' "Essay," made in April, 1819, are among his papers.[51] In the early part of 1821 he had begun his *Illustrations and Proofs*,[52] provoked by the "peevishness" and inconsequence of Godwin's senile *Enquiry*.[53] "I will not," he said,[54] "fol-

[47] J. S. Mill, *Autobiography*, p. 3.

[48] Add. MSS 35,153, f. 41.

[49] "Within the last two years, a more extensive knowledge of the process has prevailed. . . . ." (*To the Married of Both Sexes in Genteel Life.*)

[50] Especially Carlile's letter in *The History of the Diabolical Hand Bill.*

[51] Vol. LXVIII, Hendon. [52] Cf. the Preface, p. xiii.

[53] *Of Population. An Enquiry concerning the Power of Increase in the Numbers of Mankind.* By William Godwin. London, 1820.

[54] In an "unsent" reply to W. H. Rosser's letter of January 26, 1821. Vol. LXVIII, Hendon.

low Godwin's example, and do it in bad temper . . I will treat both Godwin and Malthus as Gentlemen & Scholars, and will shew that I am not afraid of discovering the truth." He borrowed, through Ricardo, Malthus' own copy of the *Essay* of 1798.[56] But he was not content merely to arbitrate an old dispute, as is sufficiently attested by his resolute[22] inclusion of the epoch-marking chapter on "Means of Preventing the Numbers of Mankind from Increasing Faster than Food is Provided."

In 1822, with his book before a startled public, Place found himself committed to the policy he had thus announced.

> From this time forward Place continually advanced the neo-Malthusian position in argument with every working-man whose confidence or gratitude he could earn, in every working-class newspaper that would admit his letters, and in his correspondence with private friends and public acquaintances. As a consequence his name, for twenty years, was hardly ever mentioned in print without some reference, deprecatory or abusive, to his notorious opinions. Good men refused to be introduced to him . . .[57]

In 1834 the committee of the Society for Promoting Useful Knowledge refused his aid in preparing tracts for the working people on the ground that "they ought to recollect what Mr. Place had written respecting Population and to take care not to identify the Society with him." The account in which Place has recorded this episode[58] clearly reflects the strong prejudice against him which then prevailed. Especially was this prejudice felt among certain factions of the working classes, for

[55] See a letter from Malthus dated February 19, 1821. Vol. LXVIII, Hendon.

[56] Cf. the Introduction, p. xii. [57] Wallas, *Life of Francis Place*, p. 169.

[58] Add. MSS 35,154, ff. 185 *et seq.*

whose benefit Place believed he was acting. Cobbett was abusive. In particular he caricatured Place in the character of "Peter Thimble, Esq., a great Anti-Population Philosopher," who figures in Cobbett's diverting "comedy in three acts" entitled *Surplus Population*.[59] Feargus O'Connor and Bronterre O'Brien among the Chartists, were hostile.[60] But all this Place had foreseen; he faced it deliberately. "I am well aware", he wrote, "of the obloquy any one must encounter who may explain the true bearings of the question. He must expose himself to many imputations, and this I am prepared to do."[61]

An audacious instance of his propagandism is afforded by copies[62] of letters addressed to clergymen who had testified before the Select Committee on Labourers' Wages, in 1824. One of these copies, marked with the names of Rev. John Pratt and Rev. Anthony Collett, is guarded in tone—ingratiatingly praising the knowledge displayed in the testimony, but expressing doubt of the practical outcome, and concluding with the assertion that "*The people alone can serve themselves*, and most assuredly they will do so when they shall come to understand the means."

To Rev. Dr. Goodwin, and to Rev. Philip Hunt, Place writes more unreservedly:

Sir

I have read your evidence before the "select committee of the House of Commons on Labourers Wages"——and have taken the lib-

[59] London, n.d. (probably 1823).

[60] *Dictionary of National Biography*, *s.v.* "Place."

[61] From a fragment of MS "Essays on the Principle of Population Addressed to the Working Classes" (1824), Vol. LXVIII, Hendon. One or two errors of the original, in punctuation, etc., have not been transcribed.

[62] Vol. LXVIII, Hendon.

erty to forward a parcel to you. This I should not have done had you not appeared to me to be a good and a wise man. The evils of poverty, the evils of bastardy—the evils of the poor laws as you are compelled to administer them, and the consequent degradation of the Labouring people are lamentable, nay highly afflicting circumstances. One only remedy will ever be found, and that is checking the increase of population by physical means, time will work the remedy as proposed, when sufficiently known. It is doing so in many places where it has been made known, and the best consequences will no doubt follow.[63]

Apparently of similar purpose is the following unaddressed draft of a letter already referred to[64] in another connection:

Sir:

By an account of your Parish laid before Parliament, I find a statement which has been copied into a newspaper which I inclose with this. It appears that a very great increase of people has taken place within the last 20 years and that the whole of the increase has been added to the paupers. A truly lamentable circumstance. If you will have the goodness to examine into the causes, and to think of the consequences of this terrible state of society you will not fail to discover, that no Legislative enactment can cure or even mitigate the evil, but that on the contrary, all such enactments must as they have hitherto done, continually increase it,—that every Legislative and *Parochial* interference, must inevitably still further degrade the people, that the more they are degraded; the less provident they will become, and that as their provident care diminishes so their numbers will increase, until wretchedness, and crime, ignorance and brutality shall make England a place not fit to live in. In order to do my part towards preventing such tremendous evils,—towards restoring a more prosperous and happier state of society, I have caused to be printed and have forwarded to you some bills, which however much they may revolt you on a first perusal, will I am sure on a serious consideration, be approved, and I hope be the means also, of preventing much evil.[65]

Other letters may be cited as indicating the progress of the propaganda. On September 1, 1824, Place wrote

[63] *Ibid.*

[64] See above, p. 103.

[65] Vol. LXVIII, Hendon.

to the philanthropic Robert Gourlay: "Well my good friend, so you have become reasonable at last. I knew you would not hold out long when you came to reflect." And, after an argument from the analogy of emetics to prove "the proposal no more unnatural than medicine or surgery," he added: "You will be an advocate for it in another month or less."[66] From a different quarter, two weeks later, comes "Letter I. on Population and Wages; addressed to the Labouring Classes; by an Operative Weaver,"[67] with similar resort to medical analogies, and persuasive use of other forms of appeal which suggest that the writer—W. Longson, of Manchester—was not only the correspondent but the disciple of Place. The spread of such doctrines in the industrial district of Lancashire is attested by the following report from the outposts:[68]

Bolton March 18th 1826.

Sir:

I received on monday last a parcel containing a quantity of Pamphlets calculated in my opinion to make an indelible impression on our *thinking* poor. As I could not mistake the object for which they were sent, have engaged a person (who travels through this country with *Sedition & Blasphemy*) to distribute them, I am happy to inform you that in the most poverty stricken districts, he has sold a large quantity of "*What is Love*" and he does not despair of the supply I furnished him with, having great effect in the same quarter.

In my own opinion nothing can be more plain, than the absolute necessity of the Anti-conception plan, and am happy to say that it is every day getting more popular . . . I can not but look upon the promoters of this measure, as persons who have deserved well of their country and hope to see the day when votes of thanks &c will be as common to them as to those who are supposed to have rendered the state eminent services in some other line.

A young man a friend of mine has promised to write an article on

[66] *Ibid.* [67] *Ibid.* [68] Vol. LXI, Hendon, p. 60.

the subject, in order if possible to provoke discussion in the two Newspapers published in this town, which we conceive will be of great service to the cause . . . I assure you in my private circle no stone is left unturned to make my unfortunate countrymen sensible of the *crime* of bringing children into the world to be starved or cut off by disease &c . . .

My respects to Mr Carlile & family

And believe me

Yours very resptfy

Wm. Smith.[69]

Carlile's description of the handbills circulating "in thousands . . . . throughout the populous districts of the North"[70] testifies that the work was thoroughly done.

In the periodical literature of the artificial check, particular interest attaches to a series of articles in the *Black Dwarf*. These began with the publication of Mrs. Fildes' letter to Carlile, in the issue for September 17, 1823,[71] under the caption "Practical Endeavours to Apply the System of Mr. Malthus in Checking Population," and included statements by Mr. Taylor and James Macphail, and Place's anonymous letter to the *Labourer's Friend*. Later, in fulfilment of the editor's promise to "take up the question of population," and "to try the various systems by a little common sense," more substantial discussions were printed. The editorial position of the *Black Dwarf* merits especial attention: it was indicative of the radicalism of the period.

The *Dwarf* was hostile both to the form of check proposed and to the whole contention that a check was

[69] In this, as in some other citations, trivial errors of punctuation, etc., have occasionally been corrected when no reason appeared for retaining the original inaccuracy.

[70] *The Republican*, XI, 555. [71] XI, 404.

needed. He feared a letting down of the bars of morality:

I am not apt to startle at the ordinary cant about violating the laws of nature; but I am ready to confess that in the remedy proposed, I see a tendency to moral evils of the most aggravated description.[72]

He foresaw, too, what the propagandists did not see, that through power and experience of control, "modern refinement" might "be brought to consider child-bearing as the evil of all others to be avoided."[73] And after all, as he believed, no ground for restriction had been shown.

. . . if our population regulators had been the directors, the first couple would have left only a pair or two behind them, lest they should have perished for want of food.[74]

But instead, the course of history had demonstrated the adequacy of food supply. Unutilized abundance existed still. Thus the *Dwarf* fell back on the old fallacy which Malthus had somewhat overreached himself in discrediting: the inference that since some were well-off, all might be; and that, once given an equitable division, population might increase indefinitely and yet find the means of its own adequate support.

The truth is, that there is quite enough for all, if there were not a portion of society who are continually depriving others of their portion . . .[75]

The real evil is

No more, no less, than a *despotic government*, and a *rapacious church establishment!*[76]

The "preventive system" is accordingly unnecessary. Indeed, it is worse: it might prove a palliative! At

[72] *Ibid.*, p. 780.
[73] *Ibid.*, p. 405.
[74] XII, 145.
[75] XI, 405.
[76] *Ibid.*, p. 698.

this point the *Dwarf*, with splendid inconsistency, becomes a Malthusian:

> The natural remedy for such a corrupt state of things, is the INCREASE of population, even to the extreme of pressure against the means of subsistence; for . . . it is only by reducing [the multitude] to a state bordering on despair, that they will ever be induced to avenge their wrongs, or to claim their rights. . .[77]
>
> . . . We do not wish men to be comfortable, if they could be so for a period, under *a bad system*. . .[78]
>
> . . . so far from excess of population being the cause of the evil, it will be found to be the only effectual remedy.[79]

Closely similar views were at one time held by the arch-radical Richard Carlile, the story of whose conversion bears impressive tribute to the power of the propaganda. He first appears in the discussion as the writer of a letter to Place,[80] dated Dorchester Gaol, August 8, 1822, and referring to Place's recently issued book—the *Illustrations and Proofs of the Principle of Population*. Carlile was contemplating the preparation of an article on Population to be published in his paper, *The Republican*, and wrote for information. In particular he declared himself apprehensive lest the proposed preventive methods should encourage immorality by facilitating the concealment of illicit relations.

Place's reply[81] affords the most elaborate example of one of his characteristic arguments. So far as the lower classes are concerned, the dread of moral lapse is mere illusion. The virtue which might be jeopardized hardly exists: "there is no chastity among the absolutely poor," and not much in the ranks just higher; for the conditions of existence make it all but impossible. Over-

[77] *Ibid.*, pp. 409–10.

[78] *Ibid.*, p. 705.

[79] *Ibid.*, p. 910.

[80] Place papers, Vol. LXVIII, Hendon.

[81] Vol. LXVIII, Hendon.

population so crushes wages down that girls grow up in squalid poverty and men dare not marry. Then comes the supreme misery of prostitution, wasting the lives of its immediate victims, and perverting, in all whom it touches, the whole attitude of men to women. A remedy for overpopulation will not extinguish vice, but it will make attainable a larger measure of virtue.

In the same letter Place set about the work of winning Carlile to the cause.

> . . . I shall . . . make a few remarks . . . not such as will convince you; that I do not even wish; but, such as I hope may tend to induce you to keep cogitating on the subject, that conviction may arise from full examination. . . . I cannot for a moment doubt the result and I wish you would take the trouble to think the subject well, laying aside your feelings and attending only to Reason, Never mind, however painful or repugnant. If to understand the true situation of mankind it becomes necessary to go through a painful course, there is no remedy but to take it or to remain in ignorance.

As for the projected editorial:

> I do not see that you are called upon to take up the subject of Population in your publication . . . If you think you can do no service, refrain, If you think you can be useful go on.

So Carlile refrained and cogitated. More than two years afterward he alludes, in *The Republican*, to his original abhorrence of the preventive measures, and to the friend who had brought about his change of mind.[82] The change was still incomplete—Carlile had become tolerant, but not enthusiastic:

> I have not one word left to say against this proposed prudent check to the unhappy extension of numbers, where there are not the means to support them in comfort; but . . . I will not advocate it at present under the head of a great political principle.[83]

[82] *Republican*, X, 496–97.

[83] *Ibid.*, p. 588.

Like the *Black Dwarf*, Carlile remained confident that food was abundant,[84] and convinced that the chief source of evil resided in existing institutions. So he wrote:

I maintain . . . *that bad government and a priesthood constitute the evil[s] which at present degrade the people of this country.*[85]

And again:

. . . *I will never complain of too many human beings, whilst all these removable evils exist.*[86]

But another half year saw him wholly won over. *The Republican* for May 6, 1825, contained under the title "What is Love?" an article in which Carlile's spirit of reform turned to the problem of sex; and in which, "after three years of consideration; after passing a year with a feeling almost like dread of giving it thought,"[87] he declared himself an advocate of the plan of the propagandists—"the last of a multitude of converts to the utility and importance of the measure."[88] His article, with modifications, was reprinted in February, 1826,[89] as *Every Woman's Book* and went through repeated editions. Fifteen hundred copies were exhausted in a few weeks.[90] Eight months after its publication it had "sold in its various editions to the extent of five thousand copies, with a continuing demand."[91]

The popularity of the book was derisively attributed by its author to the abuse which Cobbett poured upon it. "Unintentionally or intentionally," wrote Carlile, "Cobbett has raised a demand . . . even in Wales";[92]

[84] *Ibid.*, p. 495.
[85] *Ibid.*, p. 755.
[86] *Ibid.*, p. 591.
[87] XI, 556.
[88] *Ibid.*, p. 563.
[89] XIII, 200.
[90] *Ibid.*, p. 622.
[91] XIV, 443.
[92] XIII, 513.

and more specifically: "The effect which Cobbett has produced with regard to this book has been to create a call for about fifty per day."[93] Cobbett's denunciation of both book and author was indeed violent.[94] Nor is this surprising, for Carlile's fanatic and brazen hostility to what he called prejudice had here carried him outrageous lengths beyond the opinions held by Place and the saner members of the propaganda. Yet there is no occasion to question the oft-asserted sincerity of purpose which had produced the book. More and more Carlile became convinced of his full justification,[95] until he could say:

> After years of consideration, and three years of clamour against it, I now and forever stake my moral reputation upon the character of that book and will stand or fall with it in public opinion. I will endeavour to be otherwise useful; but I have no desire to be known to posterity in a higher character than that of being the sole and unassisted author of "EVERY WOMAN'S BOOK."[96]

The voice of disapproval was heard outside of England and called forth in America a pamphlet which has linked this early propagandism with the neo-Malthusian movement of more recent years. Robert Dale Owen had been publicly assailed, in New York, for approving *Every Woman's Book*. That he admired Carlile's courage he admitted; but he denied any admiration for the tone of the work.[97] To make his position clear he embodied it in a book of his own—the well-known *Moral Physiology*, which, first published in New York in December, 1830, reached its fifth edition by the middle

[93] *Ibid.*, p. 622.

[94] See especially *Cobbett's Weekly Register*, April 15, 1826.

[95] Cf. *The Lion*, II, 420.

[96] *Ibid.*, p. 428.

[97] Preface to *Moral Physiology*.

of 1831, and appeared in both authorized and unauthorized English editions in 1832.[98]

Moral Physiology was not only incomparably superior to *Every Woman's Book* in moderation of manner, singleness of aim, correctness of information, and the manifest evidence of its philanthropic purpose; it was at the same time quite the most elaborate treatise on the new check which had appeared. Place at once adopted it for the furtherance of his views. As it happened, Miss Harriet Martineau was at that time busy putting up orthodox economics in those curious pellets which she called *Illustrations of Political Economy*. Through her friend, W. J. Fox, she appealed to Place for information on the combination laws and the condition of workingmen.[99] Place seized the opportunity to send her a copy of *Moral Physiology*, with a long and remarkably frank letter criticizing her interpretation of Malthusianism and urging his own.[100] Ten years of propagandism had somewhat rebuffed his hopes that his recommendations would be universally adopted, but he remained convinced of their efficacy. In a similar spirit, a year later, he sent *Moral Physiology* to W. F. Lloyd, Professor of Political Economy at Oxford, and author of *Two Lectures on the Checks to Population*. In the anonymous letter which he wrote on this occasion he remarked:

[98] The date of *Moral Physiology* is differently stated, but most of the reference books give it as 1831. December, 1830, seems to be indicated as the correct date by a remark in the appendix to the fifth edition, where Owen, under date of June 25, 1831, states that "seven months have not yet elapsed since the first publication of Moral Physiology." Concerning the English editions, see a statement by R. D. O. in the *Crisis* for October 27, 1832.

[99] Add. MSS 35,149, f. 145.

[100] *Ibid.*, ff. 189*b*–192.

Whether abstaining from propagating under undesirable circumstances will ever become general is doubtful, but the practice has been adopted as well by some of the working people as by persons who live genteel lives on narrow incomes, and it is increasing.[101]

From this time on, so far as available records show, the activity of the propaganda slackened. The death of Malthus and the Poor Law Amendment removed almost simultaneously, in 1834, the personal figure about which population controversy had so long ranged itself, and the aggravated economic problem which had given concern alike to Malthus and to the followers whose half-alien opinions he had inspired. Other economic reforms crowded on the popular attention. Whatever may be the adequate explanation, radical proposals for the restriction of births almost ceased, until their spectacular revival nearly fifty years later. The cessation was not quite complete. Two new books, which attained subsequent notoriety in the neo-Malthusian movement, were put forth: Dr. Knowlton's *Fruits of Philosophy*, published in Boston, Massachusetts, in 1833, and Dr. George Drysdale's *Elements of Social Science*, published in London, in 1854.[102] Occasional allusions of hostile writers also showed that at least the memory of the propaganda was not dead.[103]

The movement had been no mere ruffling of the surface of contemporary thought. Eminent men had accepted its doctrines as an organic part of their philosophy. Wooler, in 1823, had found "men of rank and

[101] *Ibid.*, ff. 229–230.

[102] Dr. Charles R. Drysdale mentions (*Life and Writings of Thomas R. Malthus*, p. 113) *Large and Small Families*, by Austin Holyoake, as another tract of that period.

[103] Cf. Hickson, in the *Westminster Review*, LII (October, 1849), 141; and Rickards, *Population and Capital* (1854), p. 194.

talent advocating them openly, in theory."[104] Cobbett identified the propaganda with the Westminster "Rump."[105] The Benjamin Aimé handbill had implicated "many medical men of the first rank." Carlile tells us more:

In London, there is a sort of class, or society or connection of persons, composed of Physicians, Literati, Political Economists, Members of Parliament, with men and *women* of the first rank in point of fortunes and titles, so convinced of a redundancy of population, as to recommend a means of preventing conception . . .[106]

. . . I see the best and most wise of men labouring with a zeal to promulgate secretly a knowledge of this plan.[107]

. . . The men, who have been instrumental in making this matter known in this country, are all elderly men, fathers of families of children grown up to be men and women, and men of first rate moral characters, of first rate learning, and some of the first politicians and philosophers that ever lived in this or in any other country: men, who are known, as above described, in almost every country in Europe and America. . . .[108]

It is supposed, that the very Cabinet is acquainted with, and favourable to, this anti-conception scheme; from the quality and connections of the persons who are its advocates.[109]

The probable fact is, as these statements imply, that the centre of the propaganda was the Benthamite group, of which Place was an influential member. According to Wallas, "the rest of the inner circle of Benthamites seem to have shared Place's opinion, though he alone faced the public scandal."[110] Grote is known to have presented *The Fruits of Philosophy* to the library of London University.[111] As for Bentham himself, both his attitude

[104] J. E. Taylor, *To the Public*, p. 4.

[105] *Weekly Register*, Vol. LIV, col. 108, and Vol. LVIII, col. 419.

[106] *Republican*, X, 496. [107] XI, 555. [108] XI, 564. [109] X, 497.

[110] *Life of Place*, p. 169 n.

[111] J. M. Robertson, in *University Magazine and Free Review*, IX, 16—following Mrs. Bradlaugh Bonner's *Life of Bradlaugh*, II, 16 n.

and his caution are evinced in a letter to Place, touching a certain person's disapproval of Place's antipopulation activities:

> . . . As to the point in question, I took care not to let him know how my opinion stood; the fat would have been all in the fire, unless I succeeded in convincing him, for which there was no time . . .[112]

James Mill's prominent connection with the propaganda is clear alike from his own early allusions to preventive methods and from the influence of his economic theories upon the arguments of the other anti-populationists: an influence which became unmistakable—was, in fact, expressly acknowledged—in the communications of "A.Z." and "A.M." to the *Black Dwarf's* discussion.[113] Indeed "A.M." is so like Mill in style as well as doctrine that but for his laudatory allusion to the master one might hazard a suspicion of their identity.

The case of John Stuart Mill has attained some notoriety. Immediately after Mill's death Mr. Abraham Hayward published in *The Times* a malevolent review of his life, and presently put a still more offensive account in private circulation. In this Mr. Hayward asserts that Mill

> . . . fell under the notice of the police by circulating copies of "What is Love?" and flinging down the areas of houses, for the edification of the maid-servants, printed papers or broad-sheets containing [a description of preventive measures]. Nor was this a repented error of his youth. It was the persistent error of his mature years, and not long since he was still making converts to the same theory . . .[114]

[112] Bentham to Place, April 24, 1831. *Life of Place*, p. 82.

[113] See especially XI, 665, and XII, 238.

[114] W. D. Christie, *John Stuart Mill and Mr. Abraham Hayward, Q. C.* (London, 1873), p. 8.

Mr. Christie, who replied to Hayward, does not believe that John Stuart Mill in later life persisted in his father's views on the limiting of population.[115] Holyoake relates that Mill once sent him "a passionate repudiation of concurrence or recommendation in any form, of methods imputed to him."[116] Nevertheless, Mill's *Principles of Political Economy*, though without overt allusion to artifice, unmistakably inculcates the duty of parents to keep the size of families within the limits of the means of adequate support. The spirit of this book, and of some of the recently published letters,[117] is far from suggesting any violent reaction from the youthful course which Christie himself admits:

> . . . it is an undeniable fact that Mr. Mill, early in life, not when he was past twenty, but when he was seventeen, was, in company with some others, interfered with by the police for distribution of papers in promotion of a scheme for artificially checking the increase of population. He was not himself distributing, but one of his companions was with his knowledge.[118]

Mill was seventeen in the days of the Diabolical Handbill. Perhaps the occasion of this brush with the police was that same affair which the *Trades' Newspaper* described, when "certain young gentlemen" were "dragged . . . before a Magistrate."[119] Beyond much doubt John Stuart Mill played at least a passive part in the handbill propaganda.

Whether or not Ricardo stood with Bentham and the Mills is not clear. His *Political Economy* was for-

[115] *Ibid.*, pp. 11–12.

[116] G. J. Holyoake, *Bygones worth Remembering*, I, 270. Holyoake, however, has elsewhere shown himself untrustworthy on this subject of the artificial check and its advocates.

[117] Hugh S. R. Elliot, *The Letters of John Stuart Mill* (London, 1910).

[118] Christie, *op. cit.*, p. 9.

[119] Cf. above, p. 107.

mulated and in print before Owen went to France or the "Colony" article was published; and he died a month before the handbill was made public by the *Black Dwarf*. But he was the friend of James Mill and of Place. Only a few weeks before his death his declaration in the House of Commons that "the welfare of the working people mainly depended upon themselves" was caught up by Place as a "most important truth" and sent out, with a handbill, as a propagandist argument.[120] One hesitates to take seriously the jocose remark of Booth, to the effect that the decrease of births in Ireland,

> . . . if not allowed to be miraculous, can be accounted for only upon the supposition, that some Radical Economist has been lecturing at Portarlington on the subject of procreation . . .[121]

We may but conjecture whether to count Ricardo among the conservatives like Malthus and McCulloch, or to class him with his immediate disciples as an adherent of the principle of artificial restraint.

It was by fixing their attention on the principle of utility, as James Mill had counseled them, that these serious-minded reformers arrived at the conclusions which have here been described. They judged of utility with outlook narrowed to the measure of the orthodox economics of their day: an incipient wages-fund theory which meted out destruction to the laboring class in the simple, harsh ratio of its numbers. And if, out of the experience of Place or the coarseness of Carlile, it was suggested that parenthood was obedience to natural principles as well as conformity with rules of economic

[120] Letter to the editor of the *Labourer's Friend*, July 12, 1823, Place MSS, Vol. LXVIII, Hendon.

[121] *Letter to Malthus*, p. 122.

demand, the result was to enlarge the concept of utility by an idea of marriage debased to the level of a segregative moral police. Once, indeed, Place indulged in a vision of a higher position of woman, irradiating society with new influence for good;[122] and in due time a grosser reflection of this ideal showed in Carlile's work[123]—all to be the result of a reduction in the number of births. But mostly utility was the simple, grim avoidance of Malthusian misery and vice.

The same narrowness of outlook failed to reveal the disadvantages of the restrictive plan. Place believed the aggregate of vice would be reduced. Carlile could not see that *Every Woman's Book* had opened the way for "a particle of new evil."[124] Save for the warning voice of the *Black Dwarf* the conviction prevailed that reduction of numbers could never be carried too far among the working classes—that is, too far to suit the needs of industry. The concentration of preventive practices in those classes where economic wants press less heavily was an anomaly hardly to be foreseen.

Apprehension of the menace of unequal increase of the different social ranks first became serious when evolutionary biology had pointed out the significance of hereditary differences in human ability. In the decade of the twenties such differences were all but unrecognized, and the selective improvement of types through stress of numbers was unknown. For Place and his contemporaries there was no fear of degeneracy, following the abatement of natural selection, as comforts increase —no thought of "race suicide" and the decline of na-

[122] Letter to Carlile, August 17, 1822. Vol. LXVIII, Hendon.

[123] Cf. especially the Dedication of Vol. XI of *The Republican.*

[124] *The Lion*, II, 422.

tions which die at the top. "Laws of nature" connoted traditional prejudice. Against such laws Place championed Bentham's principle of utility as alone suited for the guidance of mankind. His argument that "Nature is a blind, dirty old toad"[125] revealed an almost dramatic unconsciousness of the coming reaction in population theory.

The morality of neo-Malthusianism, according to other than utilitarian standards, is not for discussion here. But the whole subject merits discussion more farsighted and enlightened than it has yet received. For the history of the neo-Malthusian movement impels one to believe that beneath the manifest abuses of the radical check, and beyond the vision of most of those who have been its supporters, is the ideal of a larger result—a striving for better adjustment between the momentary exactions of economic civilization and the more fundamental conditions of the continuity of human life. The propaganda came into existence at a time when the need for such adjustment was severe. Both the proposal and the revival of artificial restraint were due to able men, overradical, perhaps, but indubitably earnest in the popular cause. In less than a hundred years—rather, indeed, in about thirty—and despite all opposition, preventive practices have diffused themselves through most of the advanced nations of the world. A movement with such auspices and such vitality, and with consequences so mingled, good and bad, forces itself upon us as a social problem which can hardly be solved by the protestations of persons who turn their faces away from a situation they have not ventured to understand.

[125] Letter to Carlile, Vol. LXVIII, Hendon.

IV

THE PROGRESS OF EUGENICS[1]

Unless many signs fail, the study of eugenics has established its claim to recognition among the hopeful applications of science in social reform. Almost suddenly, within the last few years, the popular apathy which it encountered for half a century has given way to widespread attention and interest, mingled with not a little of that irresponsible enthusiasm which a novel turn of thought provokes. The spirit of eugenic inquiry has spread beyond the country of its origin and prompted investigations undertaken with a scholarly seriousness of purpose which bespeaks for them the critical estimate due to scientific work. At this turning-point in the history of eugenics, the recent death of Sir Francis Galton[2] seems to mark off the period of beginnings, the story of which is so essentially the story of his own life, from the period of wider activity that has now set in. Before the beginnings are forgotten, a review of what has already been accomplished may help to appraise the promise of usefulness which the eugenic movement affords.

I

The idea of a conscious selective improvement of the human breed is not new. Like many another stimulat-

[1] Reprinted from the *Quarterly Journal of Economics*, Vol. XXVI, No. 1 (November, 1911).

[2] Galton was knighted in 1909, in tardy recognition of his distinguished services to science. In the following pages the title is not prefixed to his name except when the reference is to events subsequent to the date of his knighthood.

ing thought it was clearly uttered long before the time when its fresh expression found the popular mind in the ready and impressionable state which makes possible a far-reaching thought movement. Twenty-three hundred years ago the political dialogues of Plato outlined a policy of controlling marriage selection and parentage for the general good of society; and declared that the statesman who would advance the welfare of his citizens should, like the fancier of birds, or dogs, or horses, take care to breed from the best only.[3] Perhaps it was natural that this idea should have come early to the mind of a man whose experience was with the compact citizen class of a city-state, and whose ideal community was not so large but that each citizen might know how his fellows lived; for it has been remarked that at the present day there is exceptional scrutiny of marrying and giving in marriage among peoples or social classes so isolated, clannish, and inbred that they must necessarily have discovered in their own experience the virtue of good stock and the fate that follows the progeny of degeneracy and constitutional disease. But Plato's project was too fantastic for his time. In following centuries the laws of the Roman Empire, the doctrines of the Church, and the policies of mercantilist states, in so far as they took cognizance of population problems, kept count in terms of soldiers, or souls, or laboring and tax-paying subjects, and for the most part overlooked the inborn differences of men. Even at the beginning of the last century, when the discussion of population problems reached a development quite unprecedented, the quality of the population was still almost ignored

[3] *Republic*, 459; *Laws*, 773; and elsewhere.

in the prevailing concern about questions of mere numbers.

The present eugenics movement may be traced back definitely to the decade beginning with the year 1865, and more generally to the thought-reaction which followed the publication of Darwin's *Origin of Species* in 1859. The new biological doctrines inevitably drew attention to the selective significance of inborn differences, in human beings as in other living forms. Nor was the existence of such differences among men likely to be overlooked by the reactionary adherents of a waning aristocratic régime, confronted with the growing prominence of the masses, whose influence was enlarging with their new accession of political privilege and with the more gradual course of industrial change. The stress which Darwin had laid on the cumulative selection of qualities transmitted by heredity put an end to that placid indifference with which the unequal increase of different social classes had been regarded. Even more positively it dispelled the illusions of those who had rejoiced in the relative infertility of the well-to-do, hailing it either as the sign of prudence in at least some places, or as a providential compensation of the hardships of poverty by vouchsafing to the poor an untroubled career of procreation.

The specific starting-point of the eugenics literature is to be recognized in two articles on "Hereditary Talent and Character," written by Francis Galton and published in Macmillan's Magazine for June and August, 1865. Impressed by the plasticity of the physical forms of animals under the breeder's selection, Galton here announced his purpose of showing, more pointedly than had been attempted before, that the mental qualities of

men are equally under control.[4] He was encouraged in this, as he himself records,[5] by the influence of *The Origin of Species;* though the suggestion of the idea had come to him from his own observation of instances of apparent heredity among his contemporaries at Cambridge. Now, he not only repudiated the prevalent view that sons of great men are usually stupid: he went on to show by a mass of biographical evidence how strikingly the frequent occurrence of able sons of able men indicates that mental qualities, quite as much as physical traits, are subject to the principles of natural inheritance. Doubtless, the son of an eminent man may be favored by superior opportunities. Advantageous associations, as well as inherited capacity, may aid his career. All this Galton was quite willing to admit. But he did not regard established position as the chief reason for the recurrence of talent in distinguished families; and to make his argument more conclusive he avoided the examples of statesmen and generals, who might be thought particularly the creatures of privilege, and sought his facts "in the more open fields of science and literature."[6] His inferences from these facts were eagerly hopeful. "How vastly would the offspring be improved," he exclaims, "supposing distinguished women to be commonly married to distinguished men, generation after generation, . . . according to rules, of which we are now ignorant, but which a study of the subject would be sure to evolve."[7] "If a twentieth part of the cost and pains were spent in measures for the improve-

[4] These words are substantially those of the opening paragraph of the first article, *Macmillan's Magazine*, XII, 157.

[5] *Memories of My Life* (London, 1908), p. 288.

[6] *Macmillan's Magazine*, XII, 161. [7] *Ibid.*, p. 164.

ment of the human race that is spent on the improvement of the breed of horses and cattle, what a galaxy of genius might we not create."[8] Half jocosely, he proposed the endowment of the marriages of, say, ten preeminently marriageable couples, chosen out of the whole nation, after an enlightened examination, on the basis of their qualifications for parenthood. Seriously, he expressed the belief that if the importance of race improvement were recognized, and if the theory of heredity were understood, some way would be found to carry the improvement into effect.[9] The articles were essentially sanguine,—enthusiastic sketches of what might result from the spread of their new idea.

Four years later these preliminary sketches developed into a book,—*Hereditary Genius*, published in 1869. The main thesis, that great ability is hereditary, is here substantially unaltered; supported, now, by abundant genealogical material, which nearly fills the book with pedigrees of judges, statesmen, the English peerage, commanders, literary men, men of science, poets, musicians, painters, divines, the senior classics of Cambridge,—even oarsmen and wrestlers, as examples of the ability of the muscles rather than of the mind. But if the theme is in the main the same, the manner of presentation is notably changed. Galton's characteristic originality of thought is reinforced by his equally characteristic attention to scrupulous precision of method. The quantitative treatment, which he has since called "actuarial," marks the work, opening the way for much of the more recent mathematical analysis of heredity problems. One finds a nice classification of the grades of ability; an ingenious notation; and the especially sig-

[8] *Ibid.*, p. 165. [9] *Ibid.*, p. 320.

nificant introduction of the law of deviation from an average—suggested, as it appears, by Quetelet's *Lettres sur la théorie des probabilités*, and so applied, in determining the normal frequency of the occurrence of distinguished talent, that the exceptional proportion of eminent men among the sons of eminent fathers mathematically demonstrates exceptional recurrence of ability. The natural consequence of such careful method is a more guarded attitude with reference to putting into practice, for ends of social reform, the principles just restated and reaffirmed. Yet the enthusiasm of the magazine articles may well have been less eloquently convincing of the possibility of such reform than the book's impressive chapter on "Influences that Affect the Natural Ability of Nations." For in this the appeal is not merely to fanciful influences which might be exerted, but to the actual modifications of human quality which stand recorded in history, or work themselves out in the common-place happenings of our own every day. Celibacy of the intellectual classes is condemned anew; the cloisters and nunneries of the Middle Ages and the academic celibacy of present times alike are proven apt means to the elimination of superior intellect. The irreparable debasement of type which followed the course of the Inquisition in Spain—a topic already touched upon by Lyell in his *Principles of Geology*[10]—yields a germane and telling argument. Less dramatic though perhaps more important is the lesson drawn from a suggestion of four years before, here developed into a classic demonstration, that the social group or nation within which the interval between generations is relatively long will be outnumbered and overcome, through mere in-

[10] 10th ed. (1868), II, 489.

feriority of increase. But it is impossible adequately to summarize a book of which Charles Darwin wrote, "I do not think I ever in all my life read anything more interesting and original."[11] The book is too characteristic for summary—too full of the personality of a great thinker. At best this bare review of its method, its data, and its conclusions will show that Galton's first essays in the subject he was later to call eugenics had greatly expanded. They had in fact grown to the magnitude of a master-work, which has served as a point of departure for his own later writings and for most of the work of others in the field which he had thus marked out.

A second pioneer of eugenics had been revealed, during the interval between the appearance of Galton's magazine articles and the publication of *Hereditary Genius*, in the person of William Rathbone Greg, already for years a well-known writer on economic and political subjects. Philanthropic in sympathies and fair in presentation, Greg was chiefly distinguished by an attitude of keen prophetic criticism of the tendencies of his time, and felt a probably undue concern at the increase of democratic and popular influence in public affairs. So it was that he became aware of the menace of adverse selective influences working through the unequal rates of increase of different elements in the population, and wrote, quite independently, and in ignorance of Galton's kindred writings,[12] a brilliant article, "On the Failure of 'Natural Selection' in the Case of Man," which was published in Fraser's Magazine for September, 1868, and, with slight alteration, became the chapter on "Non-

[11] Galton, *Memories of My Life*, p. 290.

[12] Cf. Greg, *Enigmas of Life*, p. 115.

Survival of the Fittest" in a subsequent book,—*Enigmas of Life*.[13] For races and nations, he argued, the principle of the survival of the fittest holds good; but as regards individuals "the indisputable effect of the state of social progress and culture we have reached . . . is to counteract and suspend the operation of that righteous and salutary law. . . ."[14] We keep alive the weak and defective; by our institution of property we subsidize and perpetuate the incompetency which may inherit but could not produce. The rich and the poor, disadvantaged by opposite extreme circumstances of excess and privation, propagate freely. The prudent members of the intermediate class, "most qualified and deserving to continue the race, are precisely those who do so in the scantiest measure."[15] In a noteworthy passage Greg outlines a Utopian reversal of prevailing conditions:

A republic is *conceivable* in which paupers should be forbidden to propagate; in which all candidates for the proud and solemn privilege of continuing an untainted and perfecting race should be subjected to a pass or a competitive examination, and those only be suffered to transmit their names and families to future generations who had a pure, vigorous, and well-developed constitution to transmit. . . . But no nation—in modern times at least—has ever yet approached[16] this ideal; no such wisdom or virtue has ever been found except in isolated individual instances. . . . The face of the leading peoples of the existing world is not even set in this direction—but rather the reverse.[17]

However, Greg was no Utopian. To him this artificial imposition of eugenic conditions seemed obviously impracticable, and its object perhaps not worth the cost.

[13] London, 1872.

[14] *Fraser's Magazine*, LXXVIII, 356. [15] *Ibid.*, pp. 360–61.

[16] In *Enigmas of Life* the passage (pp. 112–13) reads "approached or aimed at."

[17] *Fraser's Magazine*, LXXVIII, 361–62.

Hope was from within. "We can only trust to the slow influences of enlightenment and moral susceptibility, percolating downwards and in time permeating all ranks. We can only watch and be careful that any other influences we do set in motion shall be such as, when they work at all, may work in the right direction."[18]

Still a third distinguished personage definitely entered into the discussion of race improvement when Darwin at this time incorporated a passage on Natural Selection as affecting Civilised Nations into his *Descent of Man*, published in 1871—two years after *Hereditary Genius* and a year before *Enigmas of Life*. His discussion is not highly original: he states[19] that most of his remarks are taken from Greg, Wallace,[20] and Galton. But it is interesting to note how far the author of the principle of natural selection adopts into his own thought the ideas which his thought had provoked. Moreover, in at least one point he appears to differ with Galton: his em-

[18] *Ibid.*, p. 362. A fusillade of comments followed the publication of Greg's article. On the whole, however, they were unimportant. In the columns of the *Spectator* two or three contributions turned the discussion aside into the subject of the superior moral elevation which results from such modifications of the selective process as Greg had disapproved. A reviewer in the *Quarterly Journal of Science* (VI, 152–53) [London, January, 1869] dismissed Greg's argument as fallacious on the ground that among civilized men the struggle for existence is between social groups and not between individuals. Much the same answer was given by E. Ray Lankester in his essay *On Comparative Longevity in Man and the Lower Animals* (London, 1870; pp. 128–29, note). Lawson Tait, in the *Dublin Quarterly Journal of Medical Science* [February, 1869] (XLVII, 102–13), discussed, with more freshness of view, the implication that the work of physicians in curing disease only favored degeneration of the race by prolonging the lives of inferior individuals.

[19] I, 168.

[20] "The Origin of Human Races and the Antiquity of Man deduced from the theory of Natural Selection," *Anthropological Review*, II (1864), clviii–clxx.

phasis on the superior selective importance of slight variations contrasts rather sharply with Galton's primary concern for exceptional ability.[21] He appreciates, too, that agencies of favorable as well as of unfavorable selection are normally in operation. Malefactors are executed or confined. Suicide and violence eliminate some defective or unruly individuals. Profligacy sterilizes itself by disease. Ability favors the support of a family. Yet if these and other factors, recognized or as yet unknown, "do not prevent the reckless, the vicious, and otherwise inferior members of society from increasing at a quicker rate than the better class of men, the nation will retrograde, as has occurred too often in the history of the world."[22]

Two years later Galton was heard from again. In an essay on "Hereditary Improvement," printed in Fraser's Magazine for January, 1873, he maintained "that it is feasible to improve the race of man by a system which shall be perfectly in accordance with the moral sense of the present time."[23] As the foundation of this system he aimed "to build up . . . a sentiment of caste among those who are naturally gifted," and thus, within each existing social group, to draw together in the solidarity of a new and exclusive class consciousness the individuals of greatest merit for what he now tentatively called "viriculture."[24] The achievement of this result must come gradually. However familiar the view

[21] "In the case of corporeal structures, it is the selection of the slightly better-endowed and the elimination of the slightly less well-endowed individuals, and not the preservation of strongly-marked and rare anomalies, that leads to the advancement of a species. So it will be with the intellectual faculties . . . ." (I, 172).

[22] I, 177.

[23] *Fraser's Magazine*, N.S., VII, 116.

[24] *Ibid.*, p. 119.

had become that the artificial disposition of wealth, the destructive action of town life upon the ablest stock,[25] and the many other unfavorable influences of civilization, were working, through heredity, for human degeneration, Galton did not expect his scheme "to flourish until the popular belief shall have waxed several degrees warmer."[26] But intelligence and a religious sense of duty were alike urgent that a beginning be made.

I propose as the first step, and the time is nearly ripe for it, that some society should undertake three scientific services: the first, by means of a moderate number of influential local agencies, to institute *continuous* enquiries into the facts of human heredity; the second, to be a centre of information on heredity for breeders of animals and plants; and the third to discuss and classify the facts that were collected.[27]

Primary reliance was thus placed on the increase and diffusion of scientific knowledge with the confident expectation that if once the populace were convinced of the import of heredity, "quite as many social influences as are necessary will become directed to obtain the desired end."[28]

Thus far the forerunners of eugenics had been Englishmen; but in this same year 1873 an important contribution came from the Continent in the *Histoire des*

[25] Cf. Galton's contemporary paper on "The Relative Supplies from Town and Country Families to the Population of Future Generations," *Journal of the Royal Statistical Society*, XXXVI (March, 1873), 19–26.

[26] *Fraser's Magazine*, N.S., VII, 123.

[27] *Ibid.*, p. 124.

[28] *Ibid.*, p. 125. At the close of the article Galton unluckily indulged in a vision of the ultimate results of his project. His picture of a class of the praised and privileged fit, superposed on a population of the rejected, is one which we may rejoice to believe impossible, as well as unjustified by an intelligent interpretation of the forces which he would set at work. If this forecast be ignored, the article agrees in large measure with the best eugenic opinion of the present day.

sciences et des savants[29] by a distinguished Swiss botanist, the younger Alphonse de Candolle. This book, like *Hereditary Genius*, is based on the results of an inquiry into the relationships of eminent men. But de Candolle confined his attention to men of science, and took for his criterion of eminence membership in the leading honorary scientific societies. Cases of the close relationship of these scientists he found strikingly frequent. Yet his conclusions were not altogether in accord with the conclusions of Galton: in fact, at first sight they seem flatly contradictory. To heredity, properly speaking, he attributed little effect except in the case of the mathematical sciences.[30] The preponderant influences appeared to be education and the example and counsel of the distinguished parents.[31] But closer examination of what is meant by "heredity properly speaking" shows that de Candolle was more in harmony with Galton than might have been supposed. Outside of the talent for mathematics he believed, to be sure, that specialized ability is but slightly hereditary. Celebrity, which implies both particular aptitude and favorable circumstances, is still less controlled by heredity.[32] But generalized capacity, and especially general moral character, are undoubtedly inherited.

Ce n'est pas, comme on voit, nier l'influence de l'hérédité, c'est la réduire à quelque chose de très-général, compatible avec la liberté de l'individu, et pouvant fléchir ou se modifier suivant toutes les influences subséquentes dont l'action augmente à mesure que l'enfant devient homme.[33]

[29] *Histoire des sciences et des savants depuis deux siècles suivie d'autres études sur des sujets scientifiques, en particulier sur la sélection dans l'espèce humaine.* (Geneva, 1873.)

[30] Cf. pp. 107–8. This and subsequent citations refer to the first edition.

[31] P. 101. [32] P. 328. [33] P. 107.

Plainly de Candolle was less convinced of the inheritance of genius than Galton had been. In fact, he expressly criticised the extreme conclusions which Galton drew.[34] Yet he believed sufficiently in the heredity of human qualities to consider the possibility of improvement by artificial selection and to remark the appearances of degeneration due to selective causes like war, medicine, and unequal increase of rich and poor, which conserve the worse rather than the better types. But although he thus discussed artificial selection, he conceived it to be for practical purposes non-existent or illusory: marriages of the unfit can hardly be prevented; or, if they are in form prevented, they are likely to give way to illegitimacy. The influence of law or of religion he did not deny, but he classed it with the factors of natural, and not of artificial, selection. Thus, though he seemed inclined to belittle both the power of heredity and the means by which others hoped it might be made preponderatingly a power for good, his skepticism in each case was less extreme in reality than in appearance.

The reaction of de Candolle's views upon the work of Galton was immediate and unmistakable. A brief article "On the Causes which operate to create Scientific Men," which Galton contributed to the Fortnightly Review for March 1, 1873,[35] was in effect a review of the *Histoire des sciences et des savants*. "I propose," he wrote on this occasion, "to consider M. de Candolle as having been my ally against his will, notwithstanding all he may have said to the contrary." But Galton was not satisfied merely to contend in a review that de Candolle's work was an argument more telling than its au-

[34] Cf. e.g., pp. 243, 281, 380.

[35] N.S., XIII (O.S. XIX), 345–51.

thor had known in favor of the inheritance of ability. Characteristically he set about further investigations of his own. Convinced that a more minute study of the antecedents of scientific men would establish the superior importance of heredity as contrasted with education, he prepared a searching questionnaire which he sent to 180 scientists of reputation. The results of his study of more than a hundred replies were published the following year in his book entitled *English Men of Science: their Nature and Nurture.*[36] In form this compilation is reminiscent of the descriptive chapters in *Hereditary Genius:* a careful and circumstantial statement of the relationships of the eminent men under investigation, amplified by a correspondingly minute scrutiny of any influences of experience and training, as well as of ancestral qualities, which might explain the peculiarity of scientific tastes and abilities. The result, in Galton's mind, was further affirmation of the supremacy of nature over nurture[37]—of inheritance over training—so far as the two are separable. "I am confident," he wrote, in the preface, "that one effect of the evidence here collected will be to strengthen the utmost claims I ever made for the recognition of the importance of hereditary influence."[38]

One decade had produced all these writings. Clearly, the beginnings of eugenics were congenial to the thought of that period. Yet what was written seems to have

[36] London, 1874.

[37] "Nature is all that a man brings with himself into the world; nurture is every influence from without that affects him after his birth" (p. 12). The distinction between nature and nurture had already been made in the article of 1873 on *Hereditary Improvement*, p. 116.

[38] Pp. vi–vii.

been often, as in the cases of Darwin and Greg, an episode, brilliant but without direct continuance, in the course of other work. Apparently demonstration of selective influences reacting on the quality of the population seemed for the time rather to stimulate the new taste for biological speculation than to appeal strongly to persons practically concerned with human degeneracy or with measures of human improvement. "Popular feeling was not then ripe to accept even the elementary truths of hereditary talent and character, upon which the possibility of Race Improvement depends. Still less was it prepared to consider dispassionately any proposals for practical action."[39] Even Galton, whose long span of consistent intellectual activity is the closest link between that early outburst of eugenic ideas and the reawakened eugenic movement of the present, "laid the subject wholly to one side for many years."[40]

The interim between 1874 and 1901 was, however, too prolonged to pass without some new evidence of Galton's interest in eugenics. During this period he published, among other works, *Inquiries into Human Faculty and its Development* (1883), and *Natural Inheritance* (1889). Each has an important bearing on his later writing.

The *Inquiries into Human Faculty* gave eugenics its name.

> . . . We greatly want a brief word to express the science of improving stock, which is by no means confined to questions of judicious mating, but which, especially in the case of man, takes cognisance of all influences that tend in however remote a degree to give to the more suitable races or strains of blood a better chance of prevailing speedily over the less suitable than they otherwise would have had. The word

[39] Galton, *Memories of My Life*, p. 310. [40] *Ibid.*, p. 310.

eugenics would sufficiently express the idea; it is at least a neater word and a more generalised one than *viriculture*, which I once ventured to use.[41]

Nor was this coining of a term the only conspicuous contribution to eugenics which the book contained. For Galton here reiterated his belief "that human eugenics will become recognised before long as a study of the highest practical importance";[42] he considered, in a passage more interesting for its doubts than for its conclusions, the menace of loss of stamina through close breeding of human strains;[43] and he maintained the possibility of some system of marks for ancestral and personal merit, on the basis of which endowments, portions, or adoption might be made available for persons of meritorious stock.[44] Finally, in the closing words of the book,[45] he foreshadowed the religious sanction for eugenic conduct which has characterized some of his most recent statements of eugenic principles.[46]

Natural Inheritance was essentially a study of the general biological principles of heredity. Although phenomena of human inheritance were largely utilized in it as material for investigation, its scope was broader than the specific application of the principles it thus derived. It dealt not so much with eugenics as with the foundations of eugenics. But it has left a lasting mark on subsequent eugenic discussion because of the new lengths to which it carried the mathematical method

[41] *Inquiries into Human Faculty*, p. 24 n. For the word "viriculture," cf. above, p. 139.

[42] *Ibid.*, p. 44.

[43] *Ibid.*, pp. 305–7.

[44] *Ibid.*, pp. 327 ff.

[45] *Ibid.*, p. 337.

[46] Cf. especially, *Sociological Papers* (London), 1904, p. 50, and 1905, pp. 52–53.

of analysis in heredity problems—the method which, outlined in *Hereditary Genius* and latterly elaborated by the biometricians, has involved its followers with the followers of Mendel in a spirited and possibly momentous controversy.

A reawakening of interest in eugenics was heralded, on the eve of the present century, by Professor Karl Pearson's vigorous lecture on "National Life from the Standpoint of Science," delivered at Newcastle, November 19, 1900. The message of this lecture was primarily the answer which recent studies of heredity had given to those who concerned themselves with problems of national welfare: the nation is an organism in struggle to survive, and its success in that struggle depends on the strong increase of the best elements of its population. An old truth this may be; but it could still bear repeating at a time when the lecturer was led to say: "I fear our present economic and social conditions are hardly yet ripe" for the movement, urged by Galton, to make "men and women feel the importance of good parentage for the citizens of the future."[47] Moreover, the truth was put bluntly, in an attempt to impress it upon the newly sensitive minds of the British people, aroused at that time, by the course of events, to a questioning of the state of their national power.

The time, indeed, appears to have been unusually favorable to the reception and spread of such teachings. The shock of the reverses in South Africa, by which, throughout England, spirits "were depressed in a manner probably never before experienced by those of our countrymen now living"[48] was "more or less directly"[49]

[47] *National Life from the Standpoint of Science* (London, 1901), p. 26.

[48] *Ibid.*, p. 9. [49] *Ibid.*, p. 13.

the reason for Professor Pearson's choice of his topic. "I have endeavoured to place before you a few of the problems which, it seems to me, arise from a consideration of some of our recent difficulties in war and in trade."[50] England, in manufacture and commerce as in war, had shown "a want of brains in the right place."[51] But lack of physique as well as lack of brain was causing apprehension, as evidenced later by the appointment (September 2, 1903) of an Inter-Departmental Committee on Physical Deterioration "to make a preliminary enquiry into the allegations concerning the deterioration of certain classes of the population as shown by the large percentage of rejections for physical causes of recruits for the Army and by other evidence, especially the Report of the Royal Commission on Physical Training (Scotland)"—which had been created the year before. Subsequently the Committee was further instructed "to indicate generally the causes of such physical deterioration as does exist in certain classes, . . . and to point out the means by which it can be most effectually diminished." Probably the public had been prepared for notions of degeneracy in some parts of the population by the epoch-making investigations of Charles Booth in London—investigations which were just then culminating, after a duration of more than a decade. Finally, it was not without significance that the school of biologists who stood for quantitative studies by means of the technique of modern mathematical statistics, and among whom Galton was a recognized leader, signalized their growing solidarity and influence by establishing in October, 1901, their journal "Biometrika," which, from the time of its initial number, has

[50] *Ibid.*, p. 60. [51] *Ibid.*, p. 30.

published many articles bearing more or less directly upon eugenics.

In this same month of October, 1901, Galton delivered the Huxley Lecture of the Anthropological Institute of Great Britain and Ireland, and returned to the field of eugenics by taking as his subject for the lecture "The Possible Improvement of the Human Breed, under the Existing Conditions of Law and Sentiment." He echoed on this occasion the opinions which had marked his earlier utterances, putting them, however, in the mathematical form of his intervening work. He laid, as usual, special stress on the importance of increasing the productivity of the best stock, rather than repressing the worst; and he outlined, conservatively, possible means to that end, in economic aid, honors, and a sort of religious enthusiasm.[52] Of especial interest was his comment on previous apathy.

My subject . . . has not hitherto been approached along the ways that recent knowledge has laid open, and it occupies in consequence a less dignified position in scientific estimation than it might. It is smiled at as most desirable in itself and possibly worthy of academic discussion, but absolutely out of the question as a practical problem. My aim in this lecture is to show cause for a different opinion.[53]

To the future he looked with hopefulness balanced by his usual good sense:

But the first and pressing point is to thoroughly justify any crusade at all in favor of race improvement. More is wanted in the way of unbiased scientific inquiry . . . to make every stepping-stone safe and secure, and to make it certain that the game is really worth the candle. All I dare hope to effect by this lecture is to prove that in seeking for the improvement of the race we aim at what is apparently possible

[52] *Nature*, LXIV, 663–64; also, *Annual Report of the Smithsonian Institution for 1901*, p. 534.

[53] *Nature*, LXIV, 659; *Rep. Smithson. Inst., 1901*, p. 523.

to accomplish, and that we are justified in following every path in a resolute and hopeful spirit that seems to lead toward that end. The magnitude of the inquiry is enormous, but its object is one of the highest man can accomplish. The faculties of future generations will necessarily be distributed according to laws of heredity, whose statistical effects are no longer vague, for they are measured and expressed in formulae.[54]

Such was Galton's reaffirmation of faith in eugenics, after years of work which had borne to it only a "silent reference."[55] Since this Huxley Lecture, partly because of the receptivity of the public mind, partly no doubt through the collaboration of able scientists in allied studies, eugenics has made progress. "Now," wrote Galton, in his autobiography (1908), "I see my way better, and an appreciative audience is at last to be had, though it be small." To this audience he repeatedly addressed himself: the extent of his activity during his last ten years quite precludes any attempt at this point to give each of his publications separate mention. Three papers only, delivered and discussed before the Sociological Society, are chosen for special comment here.

The first of these papers, read May 16, 1904, bore the title: "Eugenics: Its Definition, Scope, and Aims." "Eugenics," as then defined, "is the science which deals with all influences that improve the inborn qualities of a race; also with those that develop them to the utmost advantage."[56] But in what followed, as in most discussions of eugenics, only the improvement of inborn qualities was considered. "The aim of eugenics is to bring as many influences as can be reasonably employed, to cause the useful classes in the community to contribute

[54] *Nature* LXIV, 664; *Rep. Smithson. Inst., 1901*, p. 538.

[55] *Nature* LXIV, 659; *Rep. Smithson. Inst., 1901*, p. 523.

[56] *Sociological Papers*, 1904, p. 45.

more than their proportion to the next generation.[57] To the question thence arising—what influences can be reasonably employed?—came the answer which has taken rank as an authoritative scheme of eugenic activity.[58]

The course of procedure that lies within the functions of a learned and active Society, such as the Sociological may become, would be somewhat as follows:—

1. Dissemination of a knowledge of the laws of heredity so far as they are surely known, and promotion of their farther study. Few seem to be aware how greatly the knowledge of what may be termed the *actuarial* side of heredity has advanced in recent years. . . .

2. Historical inquiry into the rates with which the various classes of society (classified according to civic usefulness)[59] have contributed to the population at various times, in ancient and modern nations. There is strong reason for believing that national rise and decline is closely connected with this influence. It seems to be the tendency of high civilisation to check fertility in the upper classes, through numerous causes, some of which are well known, others are inferred, and others again are wholly obscure. . . .[60]

3. Systematic collection of facts showing the circumstances under which large and thriving families have most frequently originated; in other words, the *conditions* of Eugenics.[61] . . . .

4. Influences affecting Marriage [i.e., the influences of social sanction or disapproval, which might be turned to the service of eugenics] . . .

[57] *Ibid.*, p. 47. [58] *Ibid.*, pp. 47–50.

[59] Galton was careful, and for the most part more than ordinarily successful, in maintaining the distinction between superior classes in a eugenic sense and the conventional "upper classes" whose position is a matter of wealth or social pretensions. But the distinction is difficult to keep clear. For example, Galton's assumption that ability is satisfactorily measured by attainment, would in many cases identify ability with the possession of wealth or station.

[60] "The latter class are apparently analogous to those which bar the fertility of most species of wild animals in zoölogical gardens" (*ibid.*, p. 48).

[61] A thriving family, tentatively defined, "is one in which the children have gained distinctly superior positions to those who were their class-mates in early life. Families may be considered 'large' that contain not less than three adult male children" (*ibid.*, p. 48).

5. Persistence in setting forth the national importance of Eugenics. There are three stages to be passed through. *Firstly* it must be made familiar as an academic question, until its exact importance has been understood and accepted as a fact; *Secondly* it must be recognised as a subject whose practical development deserves serious consideration; and *Thirdly* it must be introduced into the national conscience, like a new religion. . . . I see no impossibility in Eugenics becoming a religious dogma among mankind, but its details must first be worked out sedulously in the study. Over-zeal leading to hasty action would do harm. . . . The first and main point is to secure the general intellectual acceptance of Eugenics as a hopeful and most important study. Then let its principles work into the heart of the nation, who will gradually give practical effect to them in ways that we may not wholly foresee.

After nearly a year[62] Galton again addressed the Sociological Society; not, as before, to outline a eugenic system, but rather, in the light of his maturer reflection, to revise the former emphasis and to suggest paths of further work. Under the title of "Studies in National Eugenics," in indicating some of the work to be done, he touched newly on an old project:

In some future time, dependent on circumstances, I look forward to a suitable authority issuing Eugenic certificates to candidates for them. They would imply a more than an [sic] average share of the several qualities of at least goodness of constitution, of physique, and of mental capacity.[63]

But the idea to which he gave most prominence, and which received most attention during the discussion, was that of "Restrictions in Marriage."[64] By all sorts of folk-customs, marriage relations throughout the world are restricted and controlled as social expediency directs. Monogamy, endogamy, exogamy, the Austra-

[62] February 14, 1905.

[63] *Sociological Papers*, 1905, p. 17.

[64] *Ibid.*, 1905, pp. 3–13.

lian marriage-usages, taboo, the prohibited degrees, celibacy—all demonstrate "how powerful are the various combinations of immaterial motives upon marriage selection, how they may all become hallowed by religion, accepted as custom and enforced by law."[65] "The proverbial 'Mrs. Grundy' has enormous influence in checking the marriages she considers indiscreet."[66] As for the religious sanction, Galton was moved by the discussion to append in the published report a specific note on "Eugenics as a Factor in Religion."[67] Thus the imperiousness of social convention and the moral enthusiasm of religious belief, two motives that are always with us, are given emphatic recognition as potential forces of great promise for eugenic reform.

With these parting instructions and renewed expressions of hopefulness, Galton's active efforts for eugenics may be said to have ended. Almost until his death, which occurred January 17, 1911, he continued to lend the cause the support of his steady interest; and on one or two occasions he consented to speak in public, despite his advanced age of nearly ninety years. But his main work was done. He had been given the rare experience of foreseeing and announcing a new branch of knowledge in advance of his generation, and yet, though he had made his announcement in middle age, of living to see a subsequent generation overtake his idea and gratefully adopt it. He created eugenics, named it, and formally defined it, as "the study of agencies under social control that may improve or impair the racial qualities of future

[65] *Ibid.*, p. 12.

[66] *Ibid.*, p. 51. This remark, from Galton's reply to criticism, was apparently written after the original session.

[67] *Ibid.*, pp. 52–53.

generations, either physically or mentally."[68] By his own achievements, by the kindling influence of his enthusiasm, and by the final gift of his main fortune, he has insured that the science he founded shall go on.

II

When once the possibilities of eugenics became apparent to scientific men, other hands took up the task of investigation which Galton, so many years before, had begun, in the attempt to extend our working knowledge of human heredity.

Eugenics is so deeply founded in heredity, historically and logically, that much of the biological literature of heredity may fairly be said to fall within its scope. Relying on the applicability of general biological principles to the particular case of man, students of social problems have borrowed from biology freely, and often, it must be feared, undiscriminatingly, as in their dabblings in the famous controversy over the transmission of acquired characters. But the analogy of guinea pigs or sea-urchins affords at best an unsatisfactory demonstration of human inheritance, and one that has been slow in prevailing against prejudice and misconception, which resent the idea that human lives are in a sense predetermined, or at least limited, by physical endowment of body and brain, much as the lives of other animals are. Fifty years ago, as Galton relates in his memoirs, "most authors agreed that all bodily and some mental qualities were inherited by brutes, but they re-

[68] *Memories of My Life*, p. 321. A later definition will be found in the form of a note to p. 3 of *Sociological Papers*, 1905: "Eugenics may be defined as the science which deals with those social agencies that influence, mentally or physically, the racial qualities of future generations." This, however, has been less generally used than the definition given in the text.

fused to believe the same of man."[69] Despite the progress of science since then, one still encounters students of social problems who, finding that eugenic principles discredit some favorite scheme of amelioration, or seem to make more hopeless the case of the unfortunate among whom they work, are fain to profess their disbelief in heredity. Here, then, is abundant reason for such special and searching investigations as have come in the last few years.

Of the recent developments in eugenic research, that which most closely links itself with Galton's inquiries is the work of Professor Karl Pearson and his associates. By profession Professor Pearson is a mathematician. Since 1896 he has occupied the chair of Applied Mathematics and Mechanics at University College, London. But an interest in philosophical problems and especially in the theory of evolution turned his attention to the mathematical aspects of various biological phenomena,[70] and, not surprisingly, to the methods of study which Galton's *Natural Inheritance* had proposed. In a series of Mathematical Contributions to the Theory of Evolution he considered and revised the Galtonian Law of Ancestral Heredity, and greatly elaborated the theory of frequency curves and correlation methods, extending their applications to cases where the impossibility of exact quantitative measurement had previously made them inapplicable, and devising safeguards against biased errors in observation. Then, with the new refinements of this "biometric" method at his command, he proceeded to an estimate of the influence of heredity

[69] *Memories of My Life*, p. 288.

[70] For early examples of Pearson's work in such subjects, cf. *The Chances of Death and Other Studies in Evolution* (1897); especially Vol. I.

on human traits. Preliminary investigation of the inheritance of certain tangible characters of animals had provided a measure of the degree in which such characters are inherited, expressed in correlation coefficients indicating the resemblance between parent and progeny, or between two individuals of common parentage. In the first of two articles, published in 1903, "On the Laws of Inheritance in Man,"[71] Professor Pearson concluded that the inheritance of physical characters in man is more marked than had been supposed: is in fact as strong as in other animals. More impressive still was the conclusion of the second article, dealing with mental and moral qualities, and showing them to be inherited in the same degree as physical traits. To be sure, the subject of this study offered peculiar difficulties; and the method adopted—a study of fraternal resemblance as evidenced by the reports of school teachers—is open to serious question on grounds of bias in the collection of the data. Yet, after allowance for fallacy and error, the result of the inquiry remained too striking to be longer ignored, and still further shifted the burden of proof toward those who denied the transmissibility of mental endowments.

Eugenic investigation took on added definiteness about a year after the publication of these papers, through the generous interest of Francis Galton, who gave to the University of London funds to maintain a fellowship for the promotion of the study of "national eugenics." The writings of Professor Pearson and his followers had heretofore emanated from the Biometric Laboratory, established by Professor Pearson and the late Professor Weldon of Oxford, at University College,

[71] *Biometrika*, II, 357–462, and III, 131–90.

London. The authorities of the University of London now provided rooms and facilities for the newly subsidized research in connection with this Biometric Laboratory, and Professor Pearson, at Galton's request, assumed charge of the work. The eugenics fellowship was awarded first to Mr. Edgar Schuster, and subsequently to Mr. David Heron. Miss Ethel M. Elderton was appointed eugenics scholar. Other persons have participated in the investigations, as computers, collaborators, and advisers. From the laboratory thus organized—The Francis Galton Laboratory for National Eugenics—came an increasing output of interesting and often important studies. Then, last spring, the will of Sir Francis Galton made provision for further expansion. By its terms a residual estate of some £45,000 is left to the University of London "for the establishment and endowment of a professorship—to be known as 'The Galton Professorship of Eugenics,' with a laboratory or office and library attached thereto." The will further makes this statement of what the Galton professor is to do:

1. Collect materials bearing on Eugenics.
2. Discuss such materials and draw conclusions.
3. Form a Central Office to provide information, under appropriate restrictions, to private individuals and to public authorities concerning the laws of inheritance in man, and to urge the conclusions as to social conduct which follow from such laws.
4. Extend the knowledge of Eugenics by all or any of the following means, namely:—(*a*) professorial instruction; (*b*) occasional publications; (*c*) occasional public lectures; (*d*) experimental or observational work which may throw light on eugenic problems.

In accordance with the founder's wish, Professor Pearson has been chosen as the first Galton Professor. Officials of the University of London have issued an appeal

for £15,000 to be expended in the construction of a memorial building in which the work of the Galton laboratory may be properly carried on.

The publications of the Eugenics Laboratory are for the most part comprised in two series: the Eugenics Laboratory Memoirs and the Eugenics Laboratory Lecture Series. A third series, nominally distinct,—the Studies in National Deterioration, published as Drapers' Company Research Memoirs by the Department of Applied Mathematics of University College—presents the results of similar inquiries conducted in the Biometric Laboratory, often by members of the Eugenics Laboratory Staff. Yet another series, Questions of the Day and of the Fray, also published by the Department of Applied Mathematics, has lately been inaugurated. However, a more intelligible statement of what has been accomplished can be made if the publications be for the moment regarded as falling into three groups, namely: (1) compilations of mere material for the study of human inheritance; (2) intensive and technical studies of special eugenic problems; and (3) general statements of the conclusions reached, in simple form for popular information.

The first group consists of those issues of the Eugenics Memoirs which are known collectively as The Treasury of Human Inheritance. These are designed to make available, in standardized, scientific form, without attempt at interpretation or anything controversial, "published and unpublished family pedigrees, illustrating the inheritance in man of mental and physical characters, of disease and of abnormality." The parts thus far issued contain pedigrees of diabetes insipidus, split-foot, polydactylism, brachydactylism, tuberculosis, deaf-mut-

ism, legal ability, angioneurotic oedema, hermaphroditism, insanity, commercial ability, hare-lip, cleft palate, and congenital cataract. The work of compilation appears to have been well done. The evidence thus gathered affords important data, not only for followers of the Galton-Pearson school, but for all who perceive that the progress of eugenics depends on a further knowledge of the facts.

The second group—detailed reports of special studies—comprises most of the Eugenics Memoirs, and the Studies in National Deterioration. Here, perhaps, should also be placed the Questions of the Day and of the Fray, which up to the present have mainly served to carry on a controversy that recent memoirs on the influence of parental alcoholism provoked. Apart from these polemics, fourteen Memoirs and Studies have appeared, dealing with such subjects, among others, as tuberculosis, insanity, the inheritance of the phthisical and insane diatheses, the relative effect of heredity and environment on eyesight, the effect of home conditions on the physique and intelligence of children, and the inheritance of ability.

The third group is coincident with the Eugenics Laboratory Lecture Series. To persons who wish to learn the gist of the results embodied in the more abstruse memoirs, but who are not so critical-minded or so mathematically trained as to grapple with their technicalities, these lectures carry the message of the Laboratory on the paramount import of heredity in human improvement or degeneration. "All human qualities are inherited in a marked and probably equal degree."[72] Sweepingly this is enunciated, as a foundation principle of

[72] Pearson, *The Groundwork of Eugenics*, p. 20.

eugenics; "good and bad physique, the liability to and the immunity from disease, the moral characters and the mental temperament"[73]—all, so far as they are not acquired characters, are included in the claim. Environmental factors, on the contrary, exert an influence of altogether subordinate importance:

> I will not dogmatically assert that environment matters not at all; phases of it may be discovered which produce more effect than any we have yet been able to deal with. But I think it quite safe to say that the influence of environment is not one-fifth that of heredity, and quite possibly not one-tenth of it.[74]

Hence, clearly, attempts at the alleviation or cure of human disabilities should look much more to human nature and much less to the external conditions of the *milieu* than has been usual; and should especially beware of such changes in law or social custom as, by slackening or perverting biological selection, more than undo the direct benefits they have sought to accomplish. Hence, too, that notoriously adverse selection due to the restricted birth-rate fundamentally menaces the racial quality of the future; the more particularly since researches have shown that the neurotic, the insane, the tuberculous, and the criminal are more frequent among the elder-born members of families, and thus constitute an abnormally large proportion of the descendants of persons who have had exceptionally small families.[75] The advance of the science of medicine and the spread of education could make but poor headway against a steady running-out of the stock which they are called on to restore.

[73] Pearson, *The Scope and Importance to the State of the Science of National Eugenics*, p. 33.

[74] Pearson, *Nature and Nurture*, p. 27.

[75] Cf. Pearson, *The Problem of Practical Eugenics*, p. 19.

The philanthropist looks to hygiene, to education, to general environment, for the preservation of the race. It is the easy path, but it cannot achieve the desired result. These things are needful tools to the efficient, and passable crutches to the halt; but . . . there is no hope of racial purification in any environment which does not mean selection of the germ.[76] . . . Selection of parentage is the sole effective process known to science by which a race can continually progress.[77]

The conclusions announced by the Galton Laboratory have frequently been called in question. Authoritative biological opinion, supported by quite different methods of research, has, to be sure, agreed in assigning much greater weight to heredity than to surrounding conditions. But the findings of Professor Pearson and his collaborators have challenged prevalent opinion so often as to plunge the authors in controversy. In particular, the studies dealing with the effects of parental alcoholism upon children have provoked much hostile comment. Obviously, the assertion that no marked influence on the physique and mentality of the child is produced by alcoholism of the parents discredits much of the best-meant effort now devoted to social betterment, and seems nothing less than high treason to the zealots of the temperance cause. Sentimental protest against such a finding was inevitable. In this instance the temper of the protests had doubtless been exacerbated by irritation at the mathematical treatment which characterizes all the work of the Eugenics Laboratory, and makes the published results nearly or quite unintelligible to persons unfamiliar with the manner of analysis and statement there employed. The criticism which results from prejudice and misunderstanding is, of course, negligible. There remains, however, a valid

[76] *The Scope and Importance . . . . of National Eugenics*, p. 39.

[77] *The Groundwork of Eugenics*, p. 20.

ground for objection to the assumptions of the actuarial method in itself. To make this more clear it will be necessary to outline a different interpretation of the phenomena of heredity, for purposes of comparison.

According to the Mendelian school, a cardinal principle of heredity is to be recognized in the segregation of alternative characters. The effect of this principle is that the so-called unit characters are, in heredity, indivisible. A given unit character either appears completely or wholly fails to appear in the bodily make-up of an individual. Thus, for example, either a man is color-blind or he is not, much as a person is either male or female. In so far as inheritance is in this way alternative the intermediate blending of unit characteristics is precluded. The disciple of Mendel therefore conducts his investigations "in such a way that the only possible answer is a direct 'Yes' or a direct 'No.' "[78]

The "actuarial" study of heredity, on the other hand, rests on an altogether different assumption. The Galtonian analysis, and the formulae of Professor Pearson which have developed and emended it, are based on the view that the traits of an individual are not alternative unit characters, but variations of greater or less degree in either direction from an intermediate normal type; and that, if a large number of cases be studied together, the distribution of observed variations about the mean will exemplify the "normal frequency" computed according to the theory of probabilities. Consequently the investigator at the Galton Laboratory does not ask questions to be answered by "yes" or "no." He asks, "to what extent?" and expresses his answer numerically in a coefficient of correlation.

[78] W. Bateson, *The Methods and Scope of Genetics*, p. 20.

Theoretically, then, if the Mendelian formulation is right, the actuarial method is wrong. Between two alternative unit characters a mean, in the sense of an actual intermediate type, does not exist. In such a case the biometricians' concept of deviations from the normal has no justification in fact. If proof of the incompatibility of the two interpretations were needed, it might be found in the reluctance of Professor Pearson to accept the almost conclusive evidence adduced by experimenters of the other school. In practice, to be sure, the actuarial procedure may yield results broadly corresponding to the conclusions of the Mendelians; especially where the mass of data is large or the characters studied, being in reality complex groups of undistinguished unit characters, yield collective results which partake of the nature of averages. But correlation methods afford at best a blind and clumsy way of dealing with unit characters. If the unit-character theory continues to gain ascendency, as now seems likely, the authority of the biometricians will decline, and the value of the publications which have thus far issued from the Galton Laboratory will decline with it. Yet even though the actuarial method be supplanted, it will have served a useful purpose by its example of quantitative work, inadequately conceived but rigorously carried out, at a time when the scientific pretensions of eugenics had still to be established.

Hardly more than a decade has yet elapsed since the rediscovery of Mendel's writings gave a new impulse to the experimental study of heredity. In the course of the search for fresh biological testimony in support of Mendel's views not a little evidence has been derived from inquiries into the transmission of human traits.

The general literature of Mendelism has given some attention to unit-character inheritance in man. But thus far the task of systematic eugenic investigation based on Mendelian principles has been largely left to American scientists.

Altho the eugenics movement, under that name, is but a newcomer in America, the course of our earlier thinking and writing on social problems was not without its significant contributions to the subject of race improvement. The investigations of hereditary criminality carried on by Robert L. Dugdale, in 1874 and 1875, and summarized in his world-famous little book, *The Jukes*, must rank among the most fruitful studies of degeneracy which have yet been made. Later, McCulloch's *Tribe of Ishmael* assembled more evidence of similar purport. Dr. Amos Warner's illuminating chapter on "Charity as a Factor in Human Selection," published in his *American Charities* nearly twenty years ago, dates back to a period when, in his own words, there was "almost no literature bearing directly on the subject." Since then the debt of eugenics to scientific philanthropy in the United States has continued to grow. The proceedings of the National Conference of Charities and Correction and of the American Prison Association have contained, from the times of Dugdale and McCulloch and Warner to the present day, interesting evidences of human heredity. Another branch of inquiry has sprung from the suggestion of Dr. Alexander Graham Bell's *Memoir upon the Foundation of a Deaf Variety of the Human Race* (1883), which was followed by Dr. Fay's exhaustive work on *Marriages of the Deaf in America*, and supported by Dr. Bell's endowment of the Volta

Bureau, at Washington, for the collection of information concerning deaf-mutes. From biological beginnings, revealed in a chapter or two of *Footnotes to Evolution*, Dr. David Starr Jordan developed the eugenic message of *The Blood of the Nation and The Human Harvest.* Latterly, Dr. Woods, in his *Mental and Moral Heredity in Royalty*, has produced a valuable book after the manner of Galton's earlier studies. On the other side, Professor Ward's *Applied Sociology*, weaving its author's social philosophy and the conclusions of Alfred Odin's *Genèse des grands hommes* into a remarkable protest against the physical determinism of heredity as expressed in Galton's work, glowingly affirms the power of society to develop latent genius by the fostering social environment of education. Such are a few conspicuous examples of pioneer eugenic thought in this country. With them should be mentioned the little-known project of Mr. Loring Moody, of Boston, who, in 1881 or 1882, proposed to establish an Institute of Heredity, and, by means of a school with lectures and a library, to diffuse "knowledge on the subject of improving our race by the laws of physiology."[79] This plan, however, was frustrated by Mr. Moody's death, and the organized dissemination of eugenic instruction which it contemplated long remained unrealized.

A new phase of eugenics in this country began in 1906 with the appointment of the Committee on Eugenics of the American Breeders' Association. The latter society had been formed in 1903, by scientific breeders of animals and plants, to promote the study of heredity in its bearings upon their methods. When, with the pur-

[79] The details of this project have been communicated to the Eugenics Record Office.

pose of organizing this study, the Association determined to appoint a comprehensive system of committees, it recognized the applications of heredity to human well-being by naming a Committee on Eugenics. Some persons, to be sure, felt at that time that a wholly independent organization would be more appropriate. The American Breeders' Association consequently authorized its eugenics committee to sever itself from the parent society if that course should be deemed best. But the opinion prevailed that the serious study of human heredity would be promoted by close alliance with investigators in related fields; and that in so far as sentimental adherents might be frightened away by distaste for so frank an analogy between the breeding of men and the breeding of cattle, the effect on the ultimate usefulness of the committee would be more salutary than otherwise. Accordingly, for three or four years the Committee on Eugenics continued to exist, with a growing membership and a slowly widening sphere of activity. Then, in July, 1910, it was raised to the rank of Eugenic Section, coördinate with the Plant Section and Animal Section of the original constitution, and permitted to form committees of its own. The committees at present organized are concerned with the heredity, respectively, of the feeble-minded, of insanity, of epilepsy, of criminality, and of deaf-mutism. Each committee has its chairman and its secretary, experts in the special subject. The chairman of the Eugenics Section as a whole is David Starr Jordan; and the secretary is Dr. Charles B. Davenport, director of the Department of Experimental Evolution of the Carnegie Institution, at Cold Spring Harbor, Long Island, where the work of the section virtually centered until the Eugenics

Record Office was founded in order more definitely to centralize and supplement the activities of the several committees.

The Eugenics Record Office was opened in October, 1910, in a building of its own at Cold Spring Harbor, on land adjoining the experiment station of the Carnegie Institution. This proximity permits of close touch between the investigators of human inheritance and the biological experimenters, and makes it possible for Dr. Davenport to direct the work of both. But the Record Office is none the less distinct, as it is maintained by special funds from contributors interested in the cause, and manned by its own staff, under the immediate charge of its Superintendent, Mr. H. H. Laughlin.

The main work of the Record Office is the collection of family pedigrees revealing the presence of some trait or defect the inheritance of which is to be studied. Inasmuch as these pedigrees are analyzed not in masses and by averages, but individually according to Mendelian principles of descent, it is important that each should, if practicable, comprise the history of a wide family connection through several generations, with all possible detail that might bear on the subject of inquiry. The data for such compilations are secured partly by correspondence, in the form of standardized "Records of Family Traits," and partly through the field workers of the Record Office or of coöperating hospitals, asylums, and other institutions. Once secured, the material is recorded in genealogical charts, with the aid of conventional symbols showing at a glance not only degrees of relationship, but also legitimacy; sex; cause of death; bad habits, diseases, or defects such as alcoholism, habitual wandering, criminality, sexual immorality,

tuberculosis, syphilis, epilepsy, feeble-mindedness, insanity, paralysis, neurotic condition, deafness, blindness; or, if the information establishes it, normality. The completed records are kept on file in a fireproof room at Cold Spring Harbor, and made particularly accessible by an elaborate system of catalogue references to families, localities, characteristics, and the like. As evidence accumulates it is published in the form of Eugenic Record Office Bulletins. In addition to these, a series of Memoirs is contemplated.

Thus far the researches of the Record Office have centered about the heredity of mental disease and deficiency. Two of the Bulletins already published deal respectively with feeble-mindedness and insanity. A forthcoming number is devoted to epilepsy, and material is collecting for other related reports which are to follow. The field workers have delved in the family histories of certain isolated, inbred, and degenerate communities in New York and New England. The "Ishmaelites," whom McCulloch first made known, are being scrutinized again in the light of newer methods. The "Jukes," too, are to be further investigated. Nor is the striking lesson which these inquiries already foreshadow all that is gained. During the summer months the staff of the Record Office directs the training of a class in eugenic field work, conducting its students through isolated districts where the feeble-minded are found living in hovels, and more particularly through establishments for the insane and feeble-minded. There the students, confronted with patients and histories of patients, see with their own eyes a telling demonstration of the cost, in misery and care, caused by the breeding of tainted stocks. More than that, the students and their meth-

ods are themselves seen by the persons in charge of hospitals and asylums, who are thus often convinced of the value, for their own purposes and for the public good, of such a tracing back of the ailments which they treat. The directors of the Eugenics Record Office have met with hearty coöperation at such institutions; and it is most gratifying to hear that more than one state has taken steps to support in some measure the scientific economy of an investigation which may lead to a momentous reduction of the burden of caring for the mentally unsound.

III

Substantial advance has thus been made in the knowledge of those biological fundaments on which the hope of eugenic improvement is built. With the advance has proceeded the persistent setting forth of the social importance of eugenics for which Galton spoke.

No doubt the influence of the Eugenics Laboratory Lecture Series, of the more recent publications of the Eugenics Record Office, and of the independent writings of competent students of heredity and social problems, has been considerable. Unfortunately, however, the very conservatism of scientists, wary of announcing results which have yet to be demonstrated, has probably left the larger number of readers to receive the prophecy of eugenics indirectly, through unauthoritative writings of advocates whom Galton would hardly have wished as allies. A cause less sound at the core might well have been hurt by so much misstatement and sentimentalism, compromised by being used to serve the turn of hobby-riding radicals, or discredited by the adherence of the facile partisans of free-love, always willing to hatch

their own project by the warmth of any nearby attempt at reform. In the face of these difficulties, Eugenics seems to have progressed far toward both a wider and a more discriminating reception.

One ally which Galton did approve, and which has been active on behalf of eugenics, is The Eugenics Education Society, founded in London in 1907. In the space of little more than three years this association has attained a membership of over 500, exclusive of the enrolment in branches established at Glasgow, Liverpool, Haslemere, and Dunedin, New Zealand. Since the spring of 1909 it has successfully maintained a quarterly journal, The Eugenics Review. In its beginnings the society was a somewhat heterogeneous body, whose members, save for a common interest in eugenics, came to it with different view points and unequal qualifications for helpful effort. Its task was indubitably difficult. Mindful always of the lack of proven knowledge, and always respecting the injunction that "the pace must not be hurried,"[80] the society was none the less enthusiastically to raise its voice in the wilderness, winning converts for a future cause. At first the outcome was dubious. But the young organization quickly proceeded to find itself; was both wise and fortunate in securing the aid of Sir Francis Galton as honorary president; and, with his advice and through the energy and good sense of its executive officers, seems to have worked out a structure and a plan of action which promise a useful future. Latterly, under the supervision of the Research Advisory Committee, original inquiries have been made into the histories of pauper families and into the

[80] Galton, "Probability, the Foundation of Eugenics," in *Essays in Eugenics*, p. 99.

biological factor in infant mortality. The society has no official connection with the Galton Laboratory. Though it follows attentively the results of the Laboratory researches, and is guided by them in choosing and directing its activities, it is equally attentive to the contributions of the Mendelian school. There is possibly danger of inconsistency in a policy shaped by such eclecticism; but so long as the Mendelians and the biometricians themselves show as little inclination as now to compromise, one may trust them to keep their own doctrines pure, and may expect more benefit than harm to follow a well-meant effort to join forces in the ranks of social workers wherever there is common ground.

The Eugenics Education Society is no longer a local influence only. During the past summer it organized a Eugenic Section in the Congress of National Health, at Dublin, the public authorities having this year for the first time thus recognized the place of eugenics in the campaign for health. Further, the Society has arranged to hold in London, in July, 1912, the First International Congress on Eugenics. Already the support and coöperation of well-known scientists have been secured in England, Germany, France, and the United States. The establishment of a section for race hygiene at the Dresden Internationale Hygiene-Ausstellung of the past summer; the meeting there of the Internationale Gesellschaft für Rassenhygiene—a union of constituent societies in Germany, Sweden, and Switzerland; and the still more recent gathering at Paris of the fourth International Genetic Conference may be taken to prove a growing interest in eugenics and related subjects, and to augur well for the success of the eugenic congress next year.

The practical application of eugenic principles lies mostly in the future, when there shall be more certain knowledge of the true principles to apply. But in the meantime, as knowledge grows, opportunity is given at least for partial and temporary remedial measures, to check the apparent degenerative tendencies that contemporary economic and social conditions create. Moreover, if an ultimate policy of race improvement is to be elaborated, there must be a working hypothesis of the task to be accomplished. For both these reasons eugenists must look toward the problem of practical eugenic procedure, and consider in particular, though it be only provisionally, the distinction between positive and negative, or, in the happier terms of Mr. Crackanthorpe, constructive and restrictive, eugenics.[81] Is the eugenic ideal more attainable by promoting the increase of superior stock and thus cultivating high ability, or by checking the propagation of the inferior, and so eliminating the congenitally unfit?

Unquestionably Galton conceived and elaborated the program of eugenics in the positive, constructive sense. The opening paragraph of *Hereditary Genius* announces the thesis that "it would be quite practicable to produce a highly-gifted race of men by judicious marriages during several consecutive generations." It was, in fact, genius which had commanded Galton's attention from the time of his first inquiries into *Hereditary Talent and Character*. Latterly his broadening view became more aware of the need for restrictive eugenic agencies, as well;[82] but still the selective breeding of excellences re-

[81] Cf. *Eugenics Education Society, Second Annual Report*, pp. 7–8.

[82] Cf. the last paragraph of the introduction to the 1892 edition of *Hereditary Genius*.

mained the primary object in view. His idea of a caste based upon superior hereditary capacities; his reiterated allusions to competitive examinations for eugenic merit, and to endowments and marriage portions for the eminently meritorious; these and other recurring signs unmistakably showed the main current of his thought. And so, in his outline of *Eugenics: Its Definition, Scope and Aims*, he declared "The aim of Eugenics is to bring as many influences as can be reasonably employed, to cause the useful classes in the community to contribute *more* than their proportion to the next generation."[83] With yet greater definiteness he had already written: "the possibility of improving the race of a nation depends on the power of increasing the productivity of the best stock. This is far more important than that of repressing the productivity of the worst."[84] Altogether, one may without great inaccuracy apply to the aggregate of Galton's eugenic writings his own remark in the *Inquiries into Human Faculty:* "I have not spoken of the repression of the [inferior stock], believing that it would ensue indirectly as a matter of course."[85]

It has been maintained that positive and negative eugenics are one and the same process, viewed from opposite sides: that the relative increase of the better is the relative decrease of the worse. However true this may be as an abstraction, it is not necessarily so significant in its application to actual conditions. We cannot divide all of mankind sharply into sheep and goats and

[83] *Sociological Papers*, 1904, p. 47.

[84] "The Possible Improvement of the Human Breed . . . . ," reprinted in *Essays in Eugenics*, p. 24.

[85] *Inquiries into Human Faculty*, p. 336.

deal with either half in its entirety. Practically, eugenics is likely always to have to concentrate its efforts on the comparatively few who are manifestly good or notoriously bad—working at the fringes of the population and leaving untouched a great residuum of mediocrity. And since these two conspicuous fringes may be of very different extent, very unequally distinguishable from the general stuff of society, and very unlike in their amenability to control, it is by no means clear that the reformer can work, at his pleasure, upon either the top or the bottom with the same result.

For several reasons restrictive eugenics offers at present the greater promise of a beneficial outcome. A number of human defects, easily recognized and apparently nearly or quite unit characters in inheritance, are by common assent heavy burdens to the individual whom they afflict and the community in which he lives. Insanity, deaf-mutism, serious congenital defects of vision, epilepsy, haemophilia, would be grave disabilities in any state of society which we may reasonably foresee. The feeble-minded, already anachronisms of evolution, must presumably become more and more tragic laggards as intellectual development goes on. On the other hand, the positive virtues of the future are not so obvious and simple. Energy, versatility, a nervous organization sensitive but not fragile, strong parental instinct, altruism—such have been suggested as eugenic ideals; but they, like the still more general desiderata of ability and health, are not so much unit characters as complexes and coördinations of qualities which our present understanding of heredity would find baffling and intractable.[86]

[86] Cf. the trenchant chapter on "The Problem of the Birth Supply" in H. G. Wells's *Mankind in the Making*.

Galton himself was not unaware of these perplexities;[87] tho he made but a lame attempt to evade them by contending that "conflicting ideals . . . alternative characters . . . are wanted to give fulness and interest to life."[88] His conclusion that "the aim of Eugenics is to represent each class or sect by its best specimens; that done, to leave them to work out their common civilisation in their own way,"[89] scatters the difficulty, but does not meet it. Indeed, it adds to the previous confusion an impossible suggestion of a society compounded of as many sub-races as there are recognizable virtues.

Aside from these obstacles, the realization of constructive or positive eugenics awaits the coming of the eugenic conscience. Legislation, as we know it, can decree "Thou shalt not" and execute its decrees against unfit parenthood by segregation of defectives; it is nearly powerless to enforce "Thou shalt." Even conscience could more easily master the primeval impulse that actuates human increase than create parental instinct where it did not already exist. Voluntary celibacy induced by a sense of eugenic duty is undeniably an unfortunate and perverse expedient. It almost surely aggravates the infertility of the thinking classes, and further weakens the spirit of nothing venture, nothing have, which national vigor and natural selection require. Nevertheless, where it is practised it does accomplish the extinction of defective stock. Therein it is more effectual than the opposite manifestation of duty is likely to be. For the vital human qualities will not be found

[87] Cf. "Eugenics: Its Definition, Scope and Aims," *Sociological Papers*, 1904, p. 45.

[88] *Ibid.*, p. 46.

[89] *Ibid.*

to thrive in the atmosphere of a family life which is merely conscientious.

Whatever the cogency of this reasoning, the preponderance of eugenic writers advocate the adoption of restrictive rather than constructive eugenics, believing that thus indirectly a result really more constructive will be achieved. In fact, before the eugenics movement had begun to make headway, many a worker among the criminal, degenerate, or diseased, had observed the nemesis that follows them from one generation to another, and had become persuaded that for the good of society and the rescue of unborn posterity such blighted lines of descent should be cut off. A concrete result of this conviction is to be seen in the restrictive marriage laws of a number of the American states, and several foreign countries, designed to prevent the marriage of persons afflicted with epilepsy, feeble-mindedness, or other specified defects or diseases. A motley literature, for the most part marked by advocacy of radical remedies, has been another result. An extreme example of such writings is W. D. McKim's *Heredity and Human Progress*, the author of which, satisfied "that heredity is the fundamental cause of human wretchedness," and without faith in the adequacy of systematic segregation to root out the evils he describes, argues for Nature's method of elimination by means of "*a gentle, painless death*," from carbonic acid gas asphyxiation, "restricting the plan, however, to the *very* weak and the *very* vicious,"—idiots, imbeciles, most epileptics, insane or incorrigible criminals, and others who for one grave cause or another are now supported or detained by the State.[90] Saner and altogether more impressive is

[90] *Op. cit.*, p. 188.

the argument of Dr. Rentoul's earnest book, *Race Culture; or, Race Suicide?* in favor of surgical sterilization of degenerates and defectives. The operation of vasectomy, which Dr. Rentoul first proposed as a eugenic measure some years ago, and to which the name of "Rentoul's operation" is not infrequently applied, has already assumed importance as a practical measure. Sterilization, by this or some other method, has been legalized as a preventive of the procreation of the imbecile, insane, and criminal in Indiana (1907), California (1909), Connecticut (1909), and New Jersey (1911). The results of this striking experiment are thus far regarded as favorable, though experience has been too brief and too limited to warrant a final judgment.

IV

A quickening of popular interest has called forth, in the last two years, a succession of books designed to acquaint the public with the scope and purposes of eugenics.

Of these books the first, most pretentious, and least successful is Dr. Caleb W. Saleeby's *Parenthood and Race Culture*[91] put forward as "a first attempt to survey and define the whole field of eugenics."[92] Dr. Saleeby reveals himself as an enthusiast, with a touch of the prophet's fine frenzy, but without the measure of scientific judgment which we have come to demand even of prophets when they venture into such difficult and vital subjects. His central theme—an assumption, supported by an aphorism taken from Ruskin—is the

[91] *Parenthood and Race Culture. An Outline of Eugenics* (London: Cassell & Co.; and New York: Moffat, Yard & Co., 1909).

[92] Preface, p. vii.

supreme importance of life and the renewal of life, which importance he sees reflected upon eugenics and its thought for the life of posterity. This view-point gives a semblance of unity to the book, and certainly saves it from becoming a mere adaptation of biological commonplaces. But the unity is that of an *idée fixe*, rather than of a systematic presentation. "I claim for eugenics that it is the final and only judge of all proposals and principles, however labelled, new or old, orthodox or heterodox."[93] Rendering such blinking allegiance to an emotional half-truth, Dr. Saleeby cannot be judicial. He plays fast and loose with his premises; bases his rules for conduct now on custom, now on utility, now on mysticism, as the course of the argument suggests; and shows himself unpleasantly intolerant of those who, not having taken the precaution to beg the question at the outset, encounter difficulties in the eugenic program. The total impression is of sentiment rather than of science. And yet one would not deny to Dr. Saleeby the virtues of his defects. After all, eugenics rightfully has its need for emotional appeal, provided ordinary reasonableness is not violated. In protesting against the mere germ-plasm ideal of motherhood and in magnifying the eugenic rôle of woman the book provides a just corrective against the too impersonal drift of much that is more critically written. The chapters on "The Racial Poisons," strongly influenced by the author's experience and outlook as a physician, are interesting and in many respects serviceable; despite the fact that at the very point where the discussion becomes most concrete and documentary, in treating of the racial degeneracy due to alcohol, it unluckily runs upon controversial ground

[93] Preface, p. ix.

and finds itself opposed by the conclusions of the Pearson school. Throughout are excellences of detail. There is a sane conservatism, however it may have been arrived at, in the author's disapproval of chloroform and other violent expedients; in his coolness toward fantastic projects of constructive eugenic selection; in his reliance for the present upon obvious restrictive measures. A certain vivid earnestness is in his style, at its best. Heard as separate lectures, not a few passages would well serve to awaken in the auditor a sympathetic desire to learn more. Dr. Saleeby has many of the qualifications of a successful popularizer. But his attempt at a systematic treatise failed.

Very different in plan and in temper is Mr. and Mrs. Whetham's book, *The Family and the Nation*.[94] Here is no attempt at a systematic formulation of eugenics. Instead, we find first a review of the principles of heredity and variation applicable to man, and then a simple study of the adversely selective birth-rate of present-day England, and its menace to racial quality. The treatment of heredity is spread thin, suggesting a fear of leaving some hopeful theory unmentioned rather than a convinced sense of proportion and emphasis. The Mendelian view of the subject on the whole prevails. Numerous charted pedigrees showing the inheritance of defects and abilities constitute an excellent feature and offer an easy transition to the topic of the rise and decline of families. A browsing research in the peerage and elsewhere yields family records which certainly suggest the recurrence of inherited aptitudes, though they do

[94] *The Family and the Nation. A Study in Natural Inheritance and Social Responsibility*. By William Cecil Dampier Whetham and Catherine Durning Whetham his Wife. London and New York: Longmans, Green & Co., 1909.

not amount to demonstration. With this evidence of the sustained high records of distinguished stocks, and with the assumption "that success in life indicates ability, and that ability is a desirable possession for a race,"[95] the authors proceed to discuss the selective effects of a differential birth-rate. Their analysis of some of the influences which work, through the possibility of voluntary restriction of births, to bring about the virtual extinction of successful families, is more than ordinarily well done, and is sympathetic and wise enough to recognize motives in themselves worthy, however misplaced, among the factors of so lamentable a result. Such are "the feeling of overwhelming responsibility towards possible children"[96] and the accompanying blindness to the larger responsibility toward all posterity; the excessive pursuit of travel and out-of-door sports; the desire to better the position of woman rather by transplanting her interests from a home life that has not always been held in just estimation, than by raising her race-motherhood to the high place of honor which eugenics demands for it. To correct these mistaken ideals, and others less defensible, is plainly the central purpose of the book. Elsewhere are proposals to "segregate the worst types of feeble-minded, the habitual criminal, and the hopeless pauper,"[97] or, entering on the more hazardous ground of positive eugenics, to try, perhaps, tax exemptions in favor of income spent in the education of children, or endowments of young women who seem possessed of exceptional qualifications for parenthood. But these are slight and incidental; the lesson which the authors would convey is the broad lesson that so long as the size of

[95] P. 134.

[96] *Op. cit.*, p. 181.

[97] *Ibid.*, p. 212.

families declines in those lines of descent which have been marked by manifest ability, so long the nation will decline through loss in power of achievement. This is no new idea, to be sure; nor is it very critically stated. The whole book may be described, partly in commendation and partly in censure, as amateur. Mr. Whetham is a scholar and writer of distinction in other fields of science, and both he and his wife are parents who give thought to their honorable calling. But in biology and the social sciences, so far as appears, they speak with no special authority. Judged as an original scientific contribution their book would be nearly negligible. One is moved to judge it otherwise on account of its general good sense, its pleasant, readable style, and its lack of pretension to be more than it is. In addition to these virtues, it has the appeal characteristic of writings by those who are sincerely and earnestly interested in their work, and therefore interesting.

From the pen of an American biologist comes the book next to be considered, *The Social Direction of Human Evolution; An Outline of the Science of Eugenics*,[98] by Professor William E. Kellicott, of Goucher College. Aiming at neither originality nor exhaustiveness, Professor Kellicott has expanded the substance of three lectures on eugenics to the compass of a small volume in which he attempts briefly and suggestively to set forth the present status of the science. Through the social generalities of his introductory section on the sources and aims of eugenics he makes his way passably well, but without distinction, to the biological topics with which he is more at home. Even there, his discussion of variation is likely to seem dreary and unmeaning to

[98] New York and London: D. Appleton & Co., 1911.

the layman who has yet to learn its full significance for the question at issue. But once the subject of heredity is reached the treatment becomes decidedly interesting. The Mendelian formulation is made clear with the aid of admirable diagrams. The "actuarial methods" of the biometric school, and the concepts of continuous variation, normal frequency, regression, and correlation, which they involve, are outlined with no little skill. As between these two interpretations the author declares for the Mendelian as "obviously of much the greater importance on account of its more exact, more particular character," and because "its greater definiteness gives it a value in the treatment of eugenics that statistical statements must inherently lack."[99] Yet he is of opinion that the two schools are not irreconcilably at odds: that rather the biometricians are but dealing in the mass with the same phenomena which the Mendelians study in individual detail. Hence, until the complex human traits which now baffle Mendelian analysis are differentiated into component unit characters, the actuarial method may be profitably used to reveal a statistical preponderance of hereditary influences the separate operation of which is not yet known. Unfortunately, evidence on human heredity is still largely of the statistical sort. But with reference to many abilities and defects the testimony of pedigree charts is already impressively clear. Numerous diagrams of this kind illustrate the final section of the book, on Human Heredity and the Eugenic Program. It is doubtful if any other statement of the case for eugenics could make such eloquent appeal as these simple diagrams in which the mark of deaf-mutism or feeble-mindedness or some

[99] *Op. cit.*, p. 81.

other grave and persistent infirmity blackens the whole page of a family's history, generation after generation. Professor Kellicott does not confine himself to demonstrations of defect. He borrows from the Whethams' book their graphic charted records of able families. His program of social reform, however, is preponderantly restrictive: "In concrete eugenic practice it seems probable that most can be accomplished for the present by striving to limit the multiplication of the undesirable, dependent, or dangerous elements of the social group. There can be less uncertainty here."[100] This note of conservatism is for the most part sustained in the more specific proposals for reforms and in the reassertion of our great need for further knowledge of heredity. The conservatism, it must be admitted, is the conservatism of the biologist: insistence on the necessity of exact biological knowledge, coupled with much of the unthinking assurance that, once such knowledge is attained, only comparatively trivial perplexities remain to obscure the way of the social reformer. Professor Kellicott, entering on so wide a subject, has not wholly escaped the provincialism of a specialist. Notwithstanding, he has produced a book better adapted to serve as a general, readable, introduction to the contemporary literature of eugenics than any other which has thus far appeared.

Most recent of the works here to be considered is Dr. Charles B. Davenport's forthcoming *Race Improvement through Eugenics*.[101] Dr. Davenport's connection with the Eugenics Record Office, as well as the direct, tangi-

[100] *Ibid.*, p. 232.

[101] The discussion of this book is based on a reading of advance sheets kindly furnished by the publishers, Messrs. Henry Holt & Co., New York.

ble, quality of his earlier booklet on *Eugenics: The Science of Human Improvement by Better Breeding*[102] gave promise that his further writings would add a distinctive element to existing eugenic literature. That expectation is now in a measure realized. Because of the unique character of certain parts of the book, a special discussion of its method may be permitted.

By way of preliminary it must be said that the book does not afford a good, comprehensive exposition of eugenics as the study has ordinarily been interpreted. It is abrupt, rather scattering, and by no means always carefully worked out. Moreover, it is partisan, in the sense that its author is so committed to the current Mendelian interpretation of heredity and to the method of pedigree study, as indicating what the principles of heredity are, that the characteristic view-point of the Galtonian school is almost ignored. The partisan quality, however, shown in the extreme to which the author has thus gone in holding to one dominant group of biological assumptions and conclusions (for the two are hard to distinguish), is precisely what gives to his work its chief significance.

The heart of the volume, as well as substantially half its bulk, is in the long chapter on "The Inheritance of Family Traits." Earlier chapters have emphasized the primary concern of the eugenist for more intelligent marriage selection, and announced definite adherence to the unit-character theory, which regards persons, with reference to heredity, not as individuals, but as transmitters of a set of specific traits, borne on in latent potentiality as "determiners" in the germ substance, through long ancestry, and revealed, indivisibly, but al-

[102] New York: Henry Holt & Co., 1910.

ternatively, according to some partly discovered law, in the characteristics of posterity. Obviously next in order is a catalogue of unit characters and their manifestations and behavior, so far as known. This catalogue, in surprising comprehensiveness, the chapter now under review affords. Hereditary characteristics are here discussed under no fewer than forty-one heads, with numerous sub-headings. The list comprises, among others, such traits as color of eyes, hair, and skin; stature; weight; special ability in music, drawing and painting, literary composition, calculating, memorizing; general bodily energy; general bodily strength; general mental ability; epilepsy; insanity; pauperism; criminality; various forms of nervous disease; defects of speech, sight, and hearing; cancer; tuberculosis; pneumonia; skeletal deformities; and so on. Supplementing the text and greatly increasing its value, charts and diagrams have been utilized to an extent unprecedented in popular treatises on eugenics. The cogency of this array of evidence is, however, by no means uniform. On the heredity of eye-color, Huntington's chorea, or color-blindness, to take a few examples, the cumulative and mutually confirmatory results of independent researches have established highly definite conclusions. Concerning deaf-mutism, feeble-mindedness, and certain mental diseases, the fact of heredity is vividly demonstrated, and the manner of inheritance is sufficiently revealed to give ground for adoption of practical measures of reform. But when deductions relative to body-weight are drawn from the records of four to six families, with an aggregate of fifteen, or twenty-three, or twenty-seven children; or when particular mental abilities, only vaguely definable, are investigated on the basis of re-

ports upon family traits by persons whose good intentions do not make them experts and may unconsciously make them biased observers—then the result is of very much less scientific credibility. Dr. Davenport is by no means blind to the uneven value of his material; but his own estimate of its validity is not always clear. A large proportion of the generalizations in this chapter which are introduced by such phrases as "there is no doubt," or "the conclusion seems justified," are in fact far from convincing. The critical reader feels that inferences from weak evidence have been ventured with tacit reliance on the analogy of apparently similar instances in cases where the evidence is strong. Doubtless such procedure is permissible if it is not carried too far. So many human qualities have been shown to be hereditary that heredity may not unreasonably be presumed to influence all human qualities. The unit-character concept and the hypothesis of the presence or absence of specific determiners have so satisfactorily explained many phenomena of inheritance that it is but reasonable to believe they will be found applicable to many others. Nevertheless, where the applicability is not yet proven and where the unit characters themselves are not adequately disentangled—as in such an apparently complex instance as that of "general mental ability"—one may well be chary of recognizing a "Mendelian ratio" "within the error of the method." If Dr. Davenport had classified his evidence differently, and had gathered together his dubious conclusions in a section by themselves instead of scattering them topically among the less debatable results, his compilation would be more satisfactory to exacting readers, and would have set before the lay public a clearer example of the scien-

tific discrimination which eugenics so much needs. As it is, he may expect the opposition of those who are not Mendelians and a somewhat qualified assent from the more conservative of those who are. But to persons willing to base eugenic conduct on more or less conjectural data he has given much reason for very serious thought and no little reason for definite action.

The later chapters, though they are on the whole of secondary importance, contain several novel and interesting suggestions directly traceable to the Mendelian view-point from which the book is written. Thus the principle of the dominance or recessiveness of characteristics lends new significance to migration and to the opposite condition of settled life in isolated localities; since "negative traits multiply most in long established and stable communities where much inbreeding occurs, while positive traits are increased by emigration, as a fire is spread by the wind that scatters firebrands." The heavy incidence of deaf-mutism or feeble-mindedness in out-of-the-way settlements results from the intermarriage of relatives in whose germ-plasm the particular defect is latent. It is, indeed, with reference to recessive defects that consanguineous marriages in general are dangerous. But although the latency of defects in a stock apparently normal is the source of insidious danger when the family records are unknown, this same phenomenon of recessivity offers one means of eliminating defects from the population without resort to sterilization or segregation or other radical measures. For so long as either parent comes of a stock free from a given recessive defect, the presence of that defect in the other parent will be without adverse influence on the children or on any descendants so long as no intermarriages with

similarly defective stock take place. In this way rational eugenic marriages might keep indefinitely in abeyance many grave disabilities. Such control, however, becomes possible only when scientific family pedigrees are regularly available. It is unattainable if human traits are reckoned in masses and averages, without regard for the special evidence of each individual's own ancestry

Outside of England and the United States one meets with comparatively few contributions to the literature of eugenics in the strict sense—the eugenics which takes its name and its view-point from Francis Galton. Undoubtedly the eugenics movement has been influenced by such products of European thought as the Italian studies in congenital genius and criminality, or the demography and public hygiene of more than one continental country, to say nothing of Mendel or Weismann. It is true, too, that in the years of Galton's earlier writings more than one important book of kindred purpose came out of France. Ribot's *L'Hérédité psychologique* (1873), Jacoby's *Etudes sur la sélection dans ses rapports avec l'hérédité chez l'homme* (1881), and Guyau's *Education et hérédité* (1889), deserve mention among the older studies into the heredity of human characteristics. Yet on the whole the French, with their own special population problem to concern them, have been busied with questions of numbers and have done little to advance the selective improvement of quality. Germany, with its *Rassenbiologie*, has contributed much more. And though the writings of this school are too extensive and too much a special literature by themselves for any detailed analysis here, their importance as a supplement and corrective to the narrowness of much

that is written on eugenics demands for them at least passing notice.

The publication, in 1889, of Georg Hansen's *Die drei Bevölkerungsstufen* gave currency to a stimulating theory of national exhaustion and decline resulting from the constant indraft of population from the country to the towns, where, as was now alleged, the vigor of the country-born raised them for a time into active, dominant efficiency in city life, from which they were doomed to fall, exhausted by a generation or two amid city conditions, toward extinction in the lowest levels of the proletariat. Almost simultaneously with the appearance of Hansen's work, Otto Ammon of Karlsruhe, pursuing anthropological researches in the recruiting statistics of Baden, was led by the evidence of measurements of the cephalic index to conclude that the long-headed Teutonic race responds in a marked degree to the attraction of the towns, where, of course, it is subject to whatever deleterious conditions attach to urban life. In this cityward drift of the Teuton, who has so long been the active and energetic factor in history, it was not difficult to read a prophecy of racial decline, and to find justification for a crude social and political philosophy claiming the support of the principles of natural selection. Such an interpretation, in suggestive but uncritical form, was offered in Ammon's later work, *Die Gesellschaftsordnung und ihre natürlichen Grundlagen*, first published in 1895. From France, almost simultaneously, came Lapouge's *Les sélections sociales;* a brilliant but eccentric book, tracing the vicissitudes of races subjected to the selective influences of war, political and economic life, religion, law; and considering the possibilities of systematic selection with the purpose

of racial improvement. A journal, the Politisch-Anthropologische Revue, established in 1902, testified to the growing interest in the new application of anthropology to social problems. But this interest still lacked the counterpoise of a due scientific discrimination: the writings of laymen who ventured on the difficult ground of race biology commanded attention because of the appeal of their subject, while the works of competent investigators, scattered through various technical journals, failed of a proper effect. With the express purpose of remedying this situation the excellent Archiv für Rassen- und Gessellschafts-Biologie was founded in 1904, as a means of bringing together whatever studies by biologists, physicians, anthropologists, sociologists, economists, jurists, historians, or others, might converge on the common, central topic of the life and development of the race. The Archiv continues as it began, under the editorship of Dr. Alfred Ploetz, president of the Deutsche Gesellschaft für Rassenhygiene.

Another important series of publications which has been supposed in some measure to owe its existence to the influence of Ammon's social theories is the group of prize essays issued with the collective title *Natur und Staat.* Under the distinguished auspices of Professors Haeckel, Conrad, and Fraas, prizes to the extent of 30,000 marks were offered, in 1900, for essays on the enigmatical theme: "Was lernen wir aus den Principien der Descendenztheorie in Beziehung auf die innerpolitische Entwickelung und Gesetzgebung der Staaten?" The vagueness of the topic was made even more puzzling by specifications subjoined to it, requiring of competitors an exposition of the principles of heredity and historical examples of the adaptive modifications

of political and social tradition—a mixture, that is to say, of biological fact with sociological analogy. The announcement of the prize laid the greater stress on the sociological interpretation; the principles which actually determined the award apparently reversed this emphasis. As might have been expected, the contributions were various in scope and too often disjointed in treatment. However, two at least of the essays which the competition called forth—Schallmayer's *Vererbung und Auslese im Lebenslauf der Völker*, which was awarded the first prize, and Woltmann's *Politische Anthropologie*, which failed of an award and was published independently—made substantial contribution to the biology of society. Apart from whatever of originality these books may contain, they are interesting as systematic attempts to interpret the reversed selection which results from the civilized mode of living, and to reconcile proposals of artificial and corrective selection with the imperative laws of the natural process which has been only in part evaded and thrust aside. Not the least service which the prize essays in general have performed was to call forth the scholarly critique by Professor Tönnies, "Zur naturwissenschaftlichen Gesellschaftslehre,"[103] which, with Schallmayer's spirited reply,[104] illuminates many of the inherent difficulties of a eugenic program, by whatever name it may be called.

V

A review of what has been accomplished in the field of eugenics during the last decade clearly reveals that most of the solid writing and of the really scientific

[103] *Jahrbuch für Gesetzgebung*, especially 29 Jahrgang, pp. 27–101.

[104] *Ibid.*, 30 Jahrgang, pp. 421–69.

and useful work has come from biologists. The competent student of economic and social questions has rendered comparatively little aid. Perhaps until now his abstention from the discussion has been wise. Experts were not needed to repeat the memorable suggestion that a civilization which should acquire control over the qualities of the human breed might thereby control human welfare also. That suggestion, vital in itself, has been readily enough kept alive by the conviction of the inexpert that anything is the better for tinkering; and in the meantime the biologists, called upon to answer in terms of the laws of heredity whether such modification of mankind is possible, have been coming more and more to the conviction that whoever can determine marriage selection in the present will determine, within large limits, the physique and intellect of the future, and will become in a new sense the maker of history. But in proportion as the biologist foreshadows the physical possibilities of heredity and selection, the want grows for wisdom with which to utilize them. What sort of history, then, is best worth the making? What sort of history does it lie within our power to bring to pass? Is this momentous marriage selection, from motives half rational, half mystical, in their veneration of the continuance of life, to prevail in spite of popular ignorance and passion? Or, leaving this question of practicability for experience to decide, is it after all sensible to burden the present generation with concern for generations of the future whose needs we can hardly foretell; and, in subservience to the science of the day, to repudiate instinct older than all human experience by "falling in love intelligently"?[105] We have need of a social philos-

[105] Cf. Davenport, *Eugenics*, chap. i, §3.

ophy to tell us how far eugenic reforms are reasonable and worth while.

Even in its broadly biological aspects eugenics is involved in the long-standing demarcation dispute over the respective jurisdictions of man's artificial control and the unmodified course of natural evolution. Less than twenty years ago one of the greatest of biologists, writing on this very subject, declared in no uncertain terms his disbelief in the practice of artificial selection, as a means of human betterment, by reformers who would eliminate the weak and unfortunate, and "on whose matrimonial undertakings the principles of the stud have the chief influence."[106] Knowledge has grown, no doubt, since *Evolution and Ethics* was written, and new discoveries have gone far to discredit Huxley's belittlement of the potency of human selective agencies. The details of the biological mechanism by which changes are effected have become far better known. More dubious is the question how much advance has been made toward a wise guidance of such agencies. For Huxley, there was "no hope that mere human beings will ever possess enough intelligence to select the fittest."[107] Possibly the social consciousness of a people is an abler guide than he recognized. Perhaps, although the fittest state of society is beyond our perception, we may achieve by means of eugenic selection a succession of experimental changes which seem to us for the better. But still the order of nature decrees that eugenic experiments made in haste are repented at leisure. The eugenist who modifies the race type in the present predetermines for better or worse the mental and physical endowment of distant

[106] Huxley, "Evolution and Ethics," *Prolegomena*, p. 37.

[107] *Ibid.*, p. 34.

posterity. In the final anaylsis, eugenics, like other attempts at lasting reform, must move with the stream of processes which preceded human intervention and limit it still.

Yet in such a stream a steered course may well be better than mere drifting. Traits that have shown themselves the constant sources of weakness and suffering for generations, or through successive culture epochs, seem authoritatively marked by the protest of nature as proper for extirpation. When, on the other hand, physical organs or mental capacities of fundamental importance in modern life show signs of failing under the burden of the civilization which has been built like a superstructure upon them, the continuance of the present manner of civilization demands a strengthening of these, its organic foundations. So much may be hazarded, in generalization, touching the cases in which eugenic initiative is compatible with natural selection. But the eugenist in action must always proceed with the caution of one who reckons with the inscrutable.

If the task of eugenics were to establish a new aristocracy of inborn ability, the prospect of success would be less obscure. The historical institutions of ruling castes and hereditary nobilities have shown that the special capacity which in one generation after another can seize and retain for itself special opportunity has long been competent to raise the family line of its possessors above their less favored fellow-men. Now modern biology, from a new standpoint and with new significance, reasserts the privilege of birth. It is not surprising, therefore, that writers from Galton down, arguing for the eugenic selection which shall perpetuate and

intensify exceptional ability, have virtually proposed an aristocratic social order of a novel kind. But every preferment of the abler members of a community is tantamount to a degradation of the less gifted. To create an exclusive caste founded on eugenic superiority would be to intensify the unhappiness of such persons as are already inferior. The principle of the survival of the fittest normally involves wholesale sacrifice of the unfit; but such unmitigated rigor of selection does not commend itself as a humane method of social amelioration. Nor is the temper of the times favorable to aristocracies of any sort. It calls for a general betterment of the whole mass of mankind.

Can eugenics bring to pass this universal improvement? Probably many a devoted follower of the cause has assumed that if its benefits can be realized by any they might be extended to all. Such was the vision of Greg:

> Every damaged or inferior temperament might be eliminated, and every special and superior one be selected and enthroned, till the human race, both in its manhood and its womanhood, became one glorious fellowship of saints, sages and athletes; till we were all Blondins, all Shakespeares, Pericles', Socrates', Columbuses, and Fénelons.[108]

But to hold such opinions is to ignore the relativity of success, and to miss the very meaning of eminence. In a world of Blondins a tight-rope walker would command no profit or applause. A world of great teachers would lack for pupils to be taught. The unknown continent which every one had found could hardly immortalize its multitudinous discoverers. Nor could any one master-dramatist make mankind his audience so long as all clamored with equal right for hearing. Unfortunate-

[108] *Enigmas of Life*, p. 112.

ly, too often we overlook, in our projects of reform, the comparative character of individual attainments and individual happiness. We bemoan the rarity of greatness, forgetting how largely the exceptional individuals whom we call great are great because they are exceptional. If, then, we are to elevate a whole community, we must work by a standard free from the element of invidiousness; for no social reform can achieve a general improvement of men's positions relative to the positions of their fellow-men.[109]

Apparently then, eugenic selection is concerned not with the conditions of eminence but with the conditions of efficiency. It must work for the internal efficiency which we roughly call sanity and a good constitution, and for the external efficiency which enables an individual, regardless of the comparative efficiency of other individuals, to make steady progress in forcing his non-human surroundings into conformity with his needs. Doubtless the distinctions here implied are indefinite. For instance, the personal advantage of health and strength is diminished if equal physical vigor becomes the common possession of all. Unusual prowess in exploiting external physical resources—that is to say, exceptional economic success—has notoriously been among the most potent causes of inequality. Yet in a civilization which already ministers, by palliatives, to ill health; and in which the distributed burden of caring for the incompetent almost certainly drags more heavily on those who are stronger than would the potential

[109] It is interesting to note that this fact, so often ignored in contemporary discussions of eugenics, was emphasized by Mr. Lawson Tait more than forty years ago, with reference to the passage from Greg cited in the text. Cf. *Dublin Quarterly Journal of Medical Science*, XLVII, 112.

competition which incompetency now holds in check—in such a civilization, the promise of gain to come from the eradication of feeble-mindedness, or insanity, or the proneness to consumption, would outweigh any new stress of circumstances which it might involve. And with this alleviation of the miseries from within might come augmented economic efficiency, not of the few, but of the many: a general and continuous advance in those characteristics of body and mind which make for man's larger control of heretofore reluctant gifts of nature.

If this sketching of the possibilities is even roughly true it calls again for the verdict of the biologist. Already he has shown reason to believe that factors of health and disease act in heredity with a simplicity and directness which permit of intelligent control. It is now to be seen whether the constructive economic virtues may similarly be resolved in terms of tractable unit characters, and how far they may be reënforced with social solidarity capable of binding over to the service of the common welfare the industrial aggressiveness which might otherwise only aggravate the antagonisms of economic life. The future of eugenics thus depends still on the progress of sober, discriminating research in heredity. The time for applied eugenics, except in the restriction of obvious and serious disabilities, has hardly come.

But it is by no means only the biologist whose judgment is required. Again and again, in the light of biological discoveries a more adequate answer must be sought to that crucial question the significance of which the biologists have mostly failed to comprehend: granting that by rational marriage selection certain re-com-

binations of human characteristics can be effected at will, what eugenic policy promises the maximum increase of human welfare? To aid in answering that question the economist is needed. For health and strength and intellect work out the good or ill fortunes of their possessors according to the ways of economic civilization, and not by process of brute struggle for existence. Eugenics is not mere biology. The problems of eugenics are problems of human society.

V

EUGENICS AND DEMOGRAPHY[1]

The subject of eugenics is not altogether a newcomer in the presence of this congress. More than 20 years ago, at the London meeting of 1891, Francis Galton pointed out, in his presidential address before the demographic section, the importance of studying the comparative increase of different classes in the population, in order to discover whether or not existing conditions of increase are favorable to the improvement of the race. In the time which elapsed between the occasion of that meeting and Galton's still recent death has occurred a phenomenal awakening of public interest in the hopeful study which he had inaugurated—"the study of influences under social control that may improve or impair the racial qualities of future generations, either physically or mentally." As one result of this quickened insight the eugenist has come to regard with new foreboding the restricted birth rate of the prospering well-to-do. Concurrently with the fresh interpretation of that phenomenon, which had long provoked curious speculation, and probably in a measure because of the spread of Galton's influence, demographers in many countries have latterly accumulated striking evidence of the effect of social rank and economic conditions on birth rates and death rates, and thus on the changing flow of the various sources from which the population is replenished.

[1] Paper read before the Fifteenth International Congress on Hygiene and Demography, Washington, September, 1912. Reprinted from the *Transactions*. Washington: Government Printing Office, 1913.

Yet the deeper-lying eugenic problem is hardly touched by such investigators as these. Differential increase of the several social classes the statisticians have indeed substantially demonstrated. But they have failed sufficiently to question the implications of their result. They have viewed it with a vague apprehension because of an impression that some human stocks are better worth perpetuating than others. Meanwhile the foundations of this impression have been all too little scrutinized and will so remain until we have clearer evidence that individuals are differently gifted with innate aptitudes, and that endowments of this sort, whether favorable or unfavorable, are definitely and specifically inherited.

As a matter of fact, demographers have been slow to turn from an engrossing regard for mere numbers of persons and to appreciate the importance of distinguishing human qualities. In this respect demographic studies have followed, though somewhat laggingly, the course of development over which abstract theories of population have passed. Very much as the Malthusians tried to explain misery by a counting of mouths, and failed to see that the individual's quota of the means of subsistence varies as much with the economic efficiency of the human unit as with the number of such units to be fed, so census figures and vital statistics were and often still are complacently cited as if a million of living men and women, or a birth rate fallen to 15 per thousand of population, or an infant mortality of one in four, had always the same significance, regardless of race and of everything else which destines one man to preeminent greatness and dooms another to become a public charge.

Now at last the older superficial ideas of overpopula-

tion and depopulation are giving way to a more thoughtful analysis which holds the quantity of the populace subordinate to the quality of life, and is more careful to attribute importance to the numerical expansion or wane of peoples only where some reaction upon the quality of life is the manifest result. We may well inquire whether or not the statisticians have kept pace in this change of viewpoint.

In so far as human qualities are immediately traceable to the influence of the environment, demography has often been ready to seek out their explanation. Especially have statistics served to throw light on the external conditions of disease. Thus, to take familiar examples, the classification of deaths by causes, and the less developed study of those indispositions which are not the immediate causes of death, have revealed the comparative seriousness of the different sources of disability and suffering, and have thus directed attempts at amelioration. Infant mortality, with its implication of yet more widely prevalent illness, has ceased to be the scourge it was before vital statistics laid bare the relation between the infant death rate and the hot-weather milk supply. Seasonal and local peculiarities in the occurrence of infectious diseases, generalized and made familiar by statistics, have suggested possibilities of preventive medicine and public hygiene. Such achievements are splendid commonplaces in the record of demographic progress.

Heredity, on the other hand, has been slighted in these investigations. The demographer has shown himself preponderantly a student of circumstances—of concomitant facts. His practice has been to infer relations of cause and effect from observing not so much the slow

sequence of events as the association of phenomena roughly contemporaneous. So he has plotted his figures of infant deaths, day by day, beside the readings of the thermometer. He has compared current data of tuberculosis and of housing or occupation. Perhaps, in distributing his cases of insanity, he has taken cognizance of race. Doubtless he would not deny that the incidence of disease is only in part a matter of pathogenic organisms or other exciting conditions outside of the body, and that constitutional susceptibility or resistance must likewise be reckoned a factor. Yet he seems content to leave this latter factor unexplained. Precisely at this point the study of heredity offers him results of luminous importance. But the rigidity of his statistical tradition narrows his outlook, and the correlation of traits in progeny and ancestry—the search into past generations for an explanation of us who are of the present—remains to him virtually an uncultivated field.

Such aloofness on the part of the demographer can hardly be justified upon the ground that the domain of eugenics comprises little territory common with his own. Among the subjects of contemporary eugenic inquiry will be found many of the familiar rubrics of official statistics. Or again, such a statistical undertaking as the distinction of races in the United States census—a welcome and suggestive beginning, whatever the results have thus far been—may be taken as evidence that the simplest facts of population become more intelligible when population is regarded not as a detached and momentary phenomenon, but as the process of life which it really is. However, the failure of demography to make adequate advance in the direction which eugenics now strives to point out has very likely been due to uncer-

tainty regarding method rather than to actual obliviousness of the possible results. There remains, then, the question, how the requisite knowledge of human heredity is to be sought.

Conceivably, a mere elaboration of the census and registration methods now in use might in time assemble rich eugenic material. An ideally complete and long-continued registration of births and deaths would in itself make possible the tracing out of family histories in terms of such characteristics as causes of death, multiple births, exceptional fertility, or longevity. Practically speaking, however, this source of information is of little promise. At best it would be immensely laborious to exploit. Moreover, we are only too familiar, particularly in this country, with the obstacles to any thoroughgoing record of the occurrence and the circumstances of births. Much more hopeful would be a provision for special expert reports upon exceptionally interesting cases disclosed in registration returns or in the ordinary schedules of the enumerators. Fortunately, the usual forms of birth and death certificate, besides stating the central facts that bear upon the event recorded, provide subsidiary information which would often afford a hint of the ease or difficulty with which fuller evidence might be secured. Thus the occupation or the place of residence might indicate that the parents, or the survivors, in the given instance, were persons of approachable intelligence; and thus, too, if a birth were returned from the birthplace of the parents, or a death from the place of birth of the decedent, by fair presumption something of the past history of the family could be learned in its neighborhood. A few qualified investigators, choosing judiciously the cases to be fol-

lowed up, might in this way reach results of real significance. Similarly, a small band of field workers in the train of the census enumerators could manifold the value of our present shallow statistics of the deaf or the mentally defective. Such records as are now kept by scientific hospitals for the insane or the feeble-minded prove at once how feasible is the compilation of pedigrees showing the inheritance of these disabilities, and how illuminating is the instruction to be drawn from them.

Possibly the time has come when governments should take over the task of eugenic investigation as it is now pursued in privately endowed laboratories, notably the Galton Laboratory in London and the Eugenics Record Office at Cold Spring Harbor, Long Island. But the very fact that these two conspicuous centers of eugenic research are committed to the fundamentally different methods of the biometricians and of the Mendelian school, respectively, is eloquent of the initial uncertainties still to be cleared away in the search for an approved and established routine of study, of the kind that government bureaus may be depended on to administer satisfactorily. On the other hand, so long as governments organize and maintain staffs of workers busied in many other problematical paths of inquiry, such uncertainty is no valid reason for undue reticence in pushing forward into an outlying borderland of science where, however dubious the prospect of instant success, any genuine discovery must touch directly the very foundations of human welfare.

Whether or not official demographers should at once take upon themselves the burden of this new branch of original research, it is high time that the best accredited results of the eugenic studies of others should be given

place among the provisional facts of demography. They should not indeed be received unquestioningly; they require and deserve the critical appraisal which all other statistical generalizations should undergo, and which, regrettably, much of the old-fashioned stock in trade of our ordinary compiled population statistics would never survive. But some of the new eugenic evidence is so impressive that the risk of falling into error by accepting it is probably much less than the opposite danger of failing to recognize in it facts of the most momentous and vital nature. Thus, no statistics of the mortality from consumption are now complete without mention of the figures, offered by many serious investigators, tending to show that the diathesis of tuberculosis is hereditary. Statistics of functional insanity, or epilepsy, or chronic alcoholism—and hence, in no small degree, the statistics of pauperism, public relief, and crime—can no longer overlook the heredity factor. Conclusions regarding consanguineous marriages are hardly better than superstition until they are clarified by a discussion of the inheritance of traits like deaf-mutism, or albinism, or feeble-mindedness, as latent, "recessive," defects. Other instances might be found quite within the orthodox limits of demography.

But there is no necessity of taking these limits too seriously. The sphere of greatest achievement reaches out beyond. One generation of mankind, if it chose to act resolutely and consistently upon eugenic knowledge only a little more complete than that which we already possess, could in all likelihood reduce to insignificance certain present menaces to life and welfare and so play sad havoc with some of the quaint statistical regularities which usage has accustomed us to remark upon rather

than to remedy. If now demography will but push out its frontiers here and there, as every living science sometimes must do, it can gain from the younger science of eugenics much guidance and hope of future usefulness. The need is for an interchange of good offices. The eugenists contribute the results of their pioneering labors and share the promise of a new idea. In return whatever influence of recognition and support the demographers have to give should be given in hearty cooperation to further the really critical and really auspicious branches of eugenic inquiry. For apart from evidence of the nature of human qualities numerical studies of population have little meaning.

VI

THE BEGINNINGS OF THE BIRTH-CONTROL MOVEMENT[1]

My part in this program is to sketch a historical background for the papers and the discussion which are to follow, in so far as they deal with the movement for birth-control, so-called. I do not, for a moment, mean to imply that this fragment of history accounts for the whole fact of birth-control as it is at present practiced; because the prevention of conception has, I suppose, been practiced in one way or another, sporadically or by custom, among pretty much all peoples of antiquity and of more recent times. But the birth-control propaganda that we hear about has a fairly definite history of a

[1] The substance of remarks before the joint session of the Chicago Gynecological Society and the Chicago Medical Society, February 16, 1916. Reprinted from *Surgery, Gynecology and Obstetrics*, Vol. XXIII, No. 2 (August, 1916).

[This article and the succeeding one reprinted from *The Survey* are of interest chiefly because of their relation to the birth-control movement in the United States. Mr. Field's intellectual life was contemporaneous with the recent rapid developments along those lines. In the practical aspects of the birth-control movement and in intellectual appreciation of its meaning, he was at once the active participant and the detached observer. In 1916 it was unique for a body of medical men to invite an economist to address them on the subject of birth control. It is a matter of regret that no record has been found of an equally important historical occasion in 1917 on which Mr. Field spoke before the Judiciary committee of the Illinois state legislature on the legal aspects of birth control and apparently succeeded in giving the subject a new status in their thinking. During these years he was invited to speak on the same subject before a number of audiences, among them the City Club of Chicago. The substance of this address was published in the *City Club Bulletin*, November 21, 1916.—EDITOR.]

hundred years; and it is that particular history I have been asked to say something about.

It is ordinarily believed, by those who have given attention to this propaganda, that it has its origin in England in the decade of the seventies, or, to be more exact, in 1877. It is true that there was just then an outburst of agitation so much more effective than any that had preceded it that in a sense it was the beginning of the movement of the present day. But in strictness there was at that time not so much new thought as new publicity and a new degree of organized activity in making known the arguments for birth-control by the prevention of conception.

To understand the story we must go back to Malthus and his *Essay on the Principle of Population*, first written in 1798. The central principle of that Malthusian essay was, as you know, that human beings, like all other living beings, are cursed with a power of reproduction quite out of proportion to their power to maintain all the individuals who may be born. At first Malthus contended that this tendency to excessive increase resulted inevitably in either misery or vice. In later editions of his book he so far modified his original position as to recognize a possible escape from this dilemma through the exercise of "moral restraint"; that is, through postponement of marriage and of all sexual relations whatsoever until a man saw himself in an assured way to support whatever family he might have. It was substantially in this form that Malthus left his analysis. Pressure of population brings into the world indefinite wretchedness and suffering, which can morally be avoided only by deferring marriage so long that smaller families result. Whether or not this suggestion of moral restraint offers

a solution of the population problem depends upon whether or not the mass of mankind can be relied upon for such austere and sustained self-control. There were many among the contemporaries of Malthus who felt that for all practical purposes he left the picture as black as he had originally painted it.

Malthus was associated with the utilitarian thinkers of his time; but when it came to questions of sex morality he abandoned his utilitarianism and clung to the traditional code. Improvident marriages he sternly condemned; yet he refused to discuss or even to countenance the proposal that once persons were married the size of their families should be made subject to deliberate control. Hence to the out-and-out utilitarians it seemed that he had stopped short in the middle of his argument. He had demonstrated that overpopulation was the main source of suffering and vice, but he had shrunk from the conclusion that such a vast evil might justify resort to distasteful remedies. It remained for his more consistently radical contemporaries to push on where he had paused; to seek the ideal of the greatest good by the expedient of the lesser evil; and to take the stand that in consequence of Malthus' own statement of the population problem it had become the positive moral duty of the married as well as of the unmarried not to give existence to beings for whom they could not properly provide.

Among the distinguished utilitarians whom Malthus' reasoning led to this position may be mentioned probably Jeremy Bentham himself, and certainly James Mill, John Stuart Mill, and Grote, the historian. More important, however, in the history of the neo-Malthusian birth-control movement, is Francis Place, a picturesque

and vigorous personage who arose from degraded poverty to the station of a prosperous master-tailor, and whose wide reading and remarkable judgment of political and social conditions made him the friend of some of the most intellectual men of his day and a powerful organizer of reforms. Place sprang from the London working class, and with that class his sympathies always remained. The population problem had been presented to him directly and intimately. He virtually owed his whole moral salvation to a very youthful marriage; but this same marriage had burdened him with fourteen or fifteen children and filled his early years with the harshest poverty. He knew by experience what overpopulation meant; but he was profoundly convinced that to have remained unmarried would have meant his moral ruin. Hence he concluded that the only solution of the poor man's population problem was early marriage and limitation of family. This view he set forth frankly in a book, *Illustrations and Proofs of the Principle of Population*, which he published in 1822.

In the following year a group of radicals of whom Place was very probably the leader began to distribute in the industrial districts of London and Lancashire leaflets designed to acquaint the working classes with means of preventing conception. These, the so-called "diabolical handbills," were the cause of first an outcry and then a more serious discussion. They attained, apparently, a considerable circulation; and they were instrumental in bringing forth a more substantial pamphlet literature, of which Richard Carlile's *Every Woman's Book* and Robert Dale Owen's *Moral Physiology* may be mentioned as the most important items. These two tracts attempted to deal with the physiological facts

of reproduction as well as with the economics of over-population; and very naturally they prepared the way for the entrance of physicians into the neo-Malthusian discussion.

The first noteworthy contribution from a medical man was the pamphlet entitled *Fruits of Philosophy*, written in this country by Dr. Charles Knowlton, of Massachusetts, and published in 1833. Dr. Knowlton appears to have been not only an eccentric, but a sexual hypochondriac, whom years of worry and depression had led to take an interest in the general question of sex. When he learned of the neo-Malthusian arguments and read Robert Dale Owen's statement of the case for birth-control instead of sexual repression, he was led to put forth his own views, and in particular to devote a chapter to the prevention of conception. His book was reprinted in England and for forty years was more or less known to working-class radicals and free-thinkers. Then, in 1876, it furnished the ground for a prosecution which gave it a great though accidental notoriety.

Meantime another and intrinsically more remarkable book had appeared. This work, later called *The Elements of Social Science*, had at first the more striking title, *Physical, Sexual and Natural Religion*. The anonymous author, Dr. George Drysdale, was a physician of high intellectual ability; and his book, radical and even fantastic as it was, was none the less in its way a brilliant performance for a student hardly out of his medical school training. The book, first published in 1854, strove to show that the physical functions of man are of equal importance and dignity with the mental functions, and equally worthy of cultivation and exercise. To this rule the sexual function was held to be certainly no excep-

tion. Accordingly Dr. Drysdale ventured to revolutionize the code of sexual ethics. Recognizing, as did Dr. Knowlton, the kinship between some of his doctrines and those of the neo-Malthusians, Dr. Drysdale turned his attention more and more to Malthus and the economic explanation of poverty through overpopulation. *The Elements of Social Science*, in its elaborated form, was a literary crusade against what its author regarded as the three great and interrelated evils of poverty, prostitution, and celibacy. Only by the prevention of conception could society escape all three evils.

In 1876 a bookseller of Bristol, England, who had been selling indecently illustrated copies of Dr. Knowlton's *Fruits of Philosophy*, was arrested, tried, and convicted of selling an obscene book. The authorities turned their attention next to the publisher of the pamphlet, whom they persuaded to repudiate the work. This publisher was at that time the publisher also of much of the tract literature of the English secularists. His recantation seemed to some of the free-thinkers equivalent to an abandonment of the right of free discussion; and accordingly the leaders of the free-thought movement, Charles Bradlaugh and Mrs. Annie Besant, wishing to test the right of publication, deliberately brought out a new edition of the Knowlton pamphlet, in 1877, and challenged the police to arrest them. They were presently arraigned and brought to trial in the Court of Queen's Bench, before the Lord Chief Justice and a special jury. The Solicitor-General appeared against them: Bradlaugh and Mrs. Besant conducted their own able and dramatic defense. The case attracted inordinate attention; and by the time it had led to a half-hearted verdict of guilty, which was subsequently set aside on technical grounds,

both judge and prosecutor were agreed that the trial had accomplished just what the prosecution had desired to prevent. The plea for neo-Malthusianism had been proclaimed to all England; and, if Mrs. Besant's figures may be taken as correct, three months' sales of *Fruits of Philosophy* had disposed of as many copies as would at the old rate have lasted for one hundred and eighty years.

The Bradlaugh-Besant trial brought into prominence the Malthusian League. This organization, which owed its origin to Bradlaugh and Dr. George Drysdale, and which had nominally existed for over fifteen years, was now revived, and, under the presidency of Dr. Charles R. Drysdale, brother of Dr. George Drysdale, became influential in organizing and diffusing neo-Malthusian opinion not only in England but in some of the countries of continental Europe. The Dutch society of similar name which has done so much to further the birth-control movement in Holland was suggested by the English league. In many other countries the example has been followed.

Organized or unorganized, the movement is becoming practically world-wide. One cannot of course contend that the notoriety of the Bradlaugh-Besant trial, or of similar trials elsewhere, is the primary cause of our present-day falling birth-rate. No doubt deep-lying influences more or less inherent in modern social conditions have led civilized peoples to extend their power of control over nature until they now exert a voluntary control over human propagation itself. But one can hardly venture to deny that the agitation of the seventies must have done much to hasten the effects of these social and economic motives. It is, to say the least, a

very striking coincidence that the English birth-rate began so abruptly to fall about 1878; that the vigorous increase of population in New South Wales slackened simultaneously with the circulation and legal vindication there of neo-Malthusian leaflets; or that the decade of the eighties was marked by an unmistakable decline of the birth-rate in virtually every country where reliable records were kept.

Two general facts stand out prominently in this brief chapter of history. First, the more the movement for birth-control has been opposed, the more it has flourished. Attempts to suppress it have again and again given it fresh notoriety, and have aroused its partisans to new enthusiasm. One community after another has tried prosecution and concluded to drop it. Our own federal authorities appear to be the latest to learn discretion from the irony of this experience.

The second point seems to me more particularly to concern an audience like this. The champions of neo-Malthusianism, one after another, have been treated by the mass of the community as intellectual and moral outlaws. They have of course been radicals always, and often they have been in revolt against established religion and the existing government as well as against traditional sex-morality. In a sense this fact seems to discredit the propaganda of birth-control by making it appear as the whim of immoderate and unbalanced minds. Undeniably some of the propagandists have gone to outrageous lengths in their zeal. But it may fairly be contended that the blame for such excess of radicalism lies in good part at the door of the smug conservatives who have refused to recognize the sincerity of the neo-Malthusians and have denied them fair hearing. At any

rate, the whole birth-control program remains clouded in ignorance and prejudice.

The history of the movement, the portentous significance of birth-control, no longer as a possibility only but as an accomplished fact, demand our most discerning scientific attention. The practical question now is not whether the prevention of conception shall be tolerated—it is already tolerated and approved by great numbers of persons—but under what circumstances it is to be tolerated: in what forms, for what purposes, to what extent, and so on. Our effort should be not to keep it outside the moral pale, but to find a place for it among our civilizing discoveries; for since mankind has acquired rational mastery of its own reproduction it will hardly forget or abandon its knowledge and power. Time will test this prediction. In the meantime there is an almost unlimited opportunity to bring to bear upon these questions the dignified and intelligent discussion which physicians in good standing can bring.

VII

PUBLICITY BY PROSECUTION[1]

A COMMENTARY ON THE BIRTH CONTROL PROPAGANDA

The prosecutors of William and Margaret Sanger presumably hoped to check the propaganda of birth control. What direct success they may have achieved no one can tell; but everyone knows of their indirect and essential failure. The obvious effect of the prosecutions has been to provoke a more widespread, outspoken and sympathetic discussion of this crucial subject than had before been ventured in the United States. Nor should such an outcome be surprising. A cursory review of the consequences of previous attacks upon the partisans of birth restriction shows clearly enough what was to be expected.

The narrative that is sketched in the following paragraphs is but fragmentary. It deals with only a few conspicuous episodes during a century of opposition to the neo-Malthusian movement. A number of the less memorable prosecutions in England and in America are passed over without mention, though they have made their lesser martyrs and, perhaps, in their degree, would appear to have made history also, if the facts were known. The experiences of population reformers in Europe are not even considered here. The story really centers upon two principal occasions when the Anglo-Saxon passion for free speech encountered the restraints

[1] Reprinted from *The Survey*, Vol. XXXV, No. 21, February 19, 1916.

of Anglo-Saxon law. All in all, it is not a conclusive story, but it sets one thinking.

Systematic agitation in favor of birth control is commonly supposed to have had its beginnings in England toward forty years ago. The neo-Malthusian movement of that period, provoked by the notorious prosecution of Charles Bradlaugh and Mrs. Annie Besant in 1877, sent its radical teachings so suddenly and widely through the world that they may well have seemed unheard of and unprecedented. But the neo-Malthusianism of the seventies was in point of fact a revival—aggravated, not new. A propaganda of similar purpose was already active in 1823.

Malthus' *Essay on the Principle of Population* [1798] had persuaded many of its readers that the great cause of the miseries of poverty was to be found in the insistent pressure of excessive numbers. Among the most convinced of these disciples was Francis Place, whose keen mind and remarkable political influence made him a leading spirit in social reforms of his day. Place was a workingman. His very youthful and very happy marriage had rescued him from the slums and made a man of him; but the needs of his growing family intensified the hardships of poverty. Fifteen children brought him intimate experience of the overpopulation against which Malthus had protested. On the other hand, his no less vivid experience of moral regeneration through marriage set him firmly against Malthus' expedient of deferred marriage as the means of keeping numbers down. He contended that, for the mass of mankind, prolongation of a nominal celibacy would mean the practical certainty of intolerable vice. Early marriages must, then, be made consistent with small families. The

solution, as he saw it, lay in artificial limitation of the number of children.

This bold conclusion was announced by Place in 1822. The summer of 1823 saw a systematic attempt to distribute leaflets setting forth the new preventive of poverty. Place was apparently the prime mover in this propaganda; but there is evidence to suggest that he had the support or approval of some of the most earnest and distinguished men of his day, among them Robert Owen, James Mill, John Stuart Mill, and Jeremy Bentham.

The handbill presently aroused opposition, and the protest brought publicity. A certain Mrs. Fildes, of Manchester, received a package of the bills with a request that she aid in their distribution. Outraged and indignant, she reported the case to the attorney general. Failing of satisfaction from that quarter, she appealed to Richard Carlile, arch-radical and bold partisan of unbefriended causes, asking of him the action which "so flagrant an attack upon the morals of the community" demanded, and expressing the hope that he would "expose the propagators of this infamous handbill." Carlile, for his pains in championing a free press, was at the time confined in Dorchester gaol. The Fildes correspondence was turned over to T. J. Wooler, editor of a radical journal called the *Black Dwarf*. Wooler did not approve the object of the handbill; but, feeling bound, in the cause of free discussion, to do justice to all sides, he published the complaint and the offending leaflet with it. A noisy outcry ensued. The "diabolical handbill" made violent enemies and found warm defenders. Before the flurry subsided, the teachings of the leaflet were said to have made headway among the industrial classes of London and the north.

Two years later, Carlile, at first hostile, was wholly won over. His tract, *Every Woman's Book*, an unvarnished argument for contraception, outdid anything that had appeared. The handbill episode had seemingly created a market for such writings. Fifteen hundred copies of *Every Woman's Book* sold in a few weeks; five thousand copies, in the first eight months. But its best advertisement, according to Carlile, was the abusive hostility of William Cobbett. "Unintentionally or intentionally, Cobbett has raised a demand . . . . even in Wales"; "the effect which Cobbett has produced with regard to the book has been to create a call for about fifty per day." Nor was the result of this notoriety merely an enhanced demand for *Every Woman's Book*. An echo of the indignation, as far away as New York, caused Robert Dale Owen to publish his views of birth control in his *Moral Physiology*. Owen's book in turn seems to have prompted Dr. Knowlton's *Fruits of Philosophy*. It was these two works which were to figure so prominently in the prosecutions of 1877 and 1878.

During the half-century that elapsed between the writing of these pamphlets and their adventitious notoriety, the contraception propaganda lapsed from general notice. New books were written and the old books were still sold, but the circle of their influence was small. The most definite link between the two periods of agitation is the life of Charles Bradlaugh. Driven from home as a boy of sixteen, on account of his inclination toward atheism, Bradlaugh was taken under the roof of Mrs. Carlile, about 1850. Whether or not this association with Richard Carlile's family led him to share some of the views that had inspired *Every Wom-*

an's Book does not appear. At all events, when Bradlaugh, ten years later, began to edit the *National Reformer*, his adherence to the neo-Malthusian position was manifested from the start by the support and the space which he gave to his constant contributor "G. R." (Dr. George Drysdale), author of the important neo-Malthusian treatise, the *Elements of Social Science.*

Bradlaugh's approval of this work was the alleged chief cause of the animosity which shortly arose between him and his co-editor, Joseph Barker. The quarrel, in which Barker denounced Bradlaugh as an advocate of "unbounded license," not only broke up the co-editorship but threatened a serious schism in the secularist following. What is more to the present purpose, it identified Bradlaugh with a group of convinced neo-Malthusians; started lectures and lively discussion concerning the population problem; and considerably stimulated the sale of the *Elements of Social Science.* A free thought lecturer at Glasgow evoked applause by declaring that "Mr. Barker had himself done more to circulate the book than any other party by his 'unbounded license' attack upon it, which was the surest way of obtaining an unbounded circulation for the work." One member of the audience seriously suggested that Barker was in collusion with the publisher of the *Elements* to promote its sales.

In 1876, "a disreputable Bristol bookseller" was prosecuted and convicted for selling copies of *Fruits of Philosophy*, to which he had added indecent pictures. A second prosecution was then instituted against Charles Watts, at that time the publisher of the pamphlet, which had been openly on sale, without molestation, since about 1835. To the chagrin of his free-thought

associates, Watts was induced to plead guilty of publishing an obscene book and was released under a suspended sentence. The character of the book, the legality of its publication, were not put to the proof of a verdict. Watts' action was more than a repudiation of *Fruits of Philosophy:* it amounted to a surrender of the right of free discussion.

For Bradlaugh and his co-worker Mrs. Besant such an abandonment of the cause was impossible. Despite the fact that they did not approve the pamphlet in all its details, they republished it to test the right of publication. They took a shop and notified the police that at a stipulated time they should be present in person to sell the pamphlet. Detectives came and bought. In due course Bradlaugh and Mrs. Besant were arrested and taken to the police court.

The trial was at first set for the Old Bailey; but Bradlaugh, who had no mean knowledge of law, succeeded in having the case removed to the Court of Queen's Bench, where it was tried before the Lord Chief Justice and a special jury. The solicitor-general appeared as chief counsel for the prosecution, though the identity of the responsible prosecutor was sedulously concealed. Bradlaugh and Mrs. Besant conducted their own defense. The trial began June 18, 1877, and lasted four days. An extraordinary degree of interest was aroused by the outstanding features of the case—the engrossing subject under discussion; the discriminating and sympathetic attitude of the Lord Chief Justice; the warmth or bitterness of partisan feeling toward the secularist cause; Bradlaugh's redoubtable personality; most of all, perhaps, the eloquence, the courage, the astonishing poise of a woman, not yet thirty years old, who could for two

days hold the admiring attention of the court to her defense of the morality of birth control. The court-room was crowded with auditors, and to those who did not attend, the daily press offered detailed accounts of the progress of the case.

The publicity which attached to the whole prosecution, culminating in the trial, had not been slow in producing the effect which the prosecutors must least have desired. A widespread demand was aroused for *Fruits of Philosophy*. In the days of its obscurity the pamphlet sold to the extent of about 700 copies in a year. For the three months interval between the arrest and the trial, the sales of the new edition aggregated 125,000—a number which would have satisfied the former demand for 180 years. Figures could hardly speak more emphatically. "That," argued Mrs. Besant, to the jury, "is one of the effects of trying in a free country to stop the sale of a book which has been uninterruptedly sold to the public for forty-three years." Even the solicitor-general was constrained to declare the whole proceeding a blunder: "a most unfortunate prosecution I admit it is, . . . a most mischievous prosecution in its character, and, probably, in its result . . . " The Lord Chief Justice, in summing up, went farther still. "There is one point," he said, "on which I think every one who has attended to the trial will cordially concur . . . that is as to the mischievous effect of this prosecution. A more ill-advised and more injudicious proceeding in the way of a prosecution was probably never brought into a court of justice."

The verdict in this trial was equivocal: "We are unanimously of opinion that the book in question is calculated to deprave public morals, but at the same time

we entirely exonerate the defendants from any corrupt motives in publishing it." The court held that this must be regarded as a verdict of guilty; but the sentence which was imposed was never carried out. An appeal was taken on grounds of error, and in February, 1878, the higher court, ruling on a purely technical question, reversed the judgment of the court below. While the appeal had been pending Bradlaugh and Mrs. Besant had ceased publication of *Fruits of Philosophy*. As soon as the decision was rendered, however, they began again actively to distribute the pamphlet. Indeed, Bradlaugh went so far as to sue the police for the recovery of some copies which they had seized. He won his point, regained possession of the pamphlets, and sold them, inscribed with the legend, "Recovered from the police."

The general sale went on, unopposed, until, after an intimation that no further prosecution would be attempted, Bradlaugh and Mrs. Besant withdrew the book. They had made good their determination to publish it. Now that the publication was no longer contested they substituted what they intended to be a more suitable book—the *Law of Population*, written for this purpose by Mrs. Besant.

The picturesqueness of the Bradlaugh-Besant trial almost eclipsed the closely allied case of Edward Truelove, bookseller. About the time when *Fruits of Philosophy* was confiscated, representatives of the Society for the Suppression of Vice raided Truelove's shop in High Holborn and seized copies of Robert Dale Owen's *Moral Physiology*—a pamphlet which had been sold in England for some forty-six years, and one of the most obviously well-intentioned items in all the neo-Mal-

thusian literature. Truelove was brought to trial in February, 1878, but the jury was unable to agree on a verdict. At a second trial, in May, he was convicted and sentenced to pay a fine of £50 and to serve four months of imprisonment. By that time the case against *Fruits of Philosophy* had failed, and the circulation of the *Law of Population* had begun. Truelove's conviction had no important effect in checking the campaign. On the other hand, this imprisonment of a man nearly seventy years old, and highly respected by his secularist associates, was an additional challenge and spur to the already militant propagandists.

A most important consequence of these trials was the vigorous activity of the Malthusian League. This organization had its start in May, 1861, as a result of Bradlaugh's suggestion of a society to support discussion, influence public opinion and overcome the prevailing neglect or misconception of Malthusianism. Aroused from comparative inaction by the prosecution of its founder, the league assumed a position of international leadership in the methodical diffusion of the neo-Malthusian ideas. It published literature, held meetings in various parts of England, and presently began the regular issue of a monthly periodical, the *Malthusian*.

The effects of this crusade and of the personal influence of Dr. Charles R. Drysdale, president of the league, were soon felt in other countries. In Holland, especially, a lively interest in birth control was awakened, which led, in 1881, to the founding of the celebrated Nieuw-Malthusiaansche Bond.

The rapid decline of the birth-rate, that disconcerting legacy of the nineteenth century, began to show itself over the greater part of western Europe, with striking

simultaneity, in the late seventies and early eighties. In England particularly, as several careful studies have shown,[2] the drop appears suddenly about 1878. The coincidence of this change with the propaganda called forth by the Bradlaugh-Besant trial is too significant to be ignored. The deeper causes of birth restriction were, of course, latent in general social conditions. The falling birth-rate would have come, no doubt, in its own time, had the *Fruits of Philosophy* never been protested. But the ill-starred prosecution gave to slow-gathering forces instant and overwhelming effect. "Nothing has done so much for the popularization of the truths contained in the Malthusian Theory," wrote Dr. C. R. Drysdale, in 1878. "In the words of Prof. Alexander Bain, it has advanced the question by a quarter of a century."

It is often to be observed that colonies recapitulate in their rapid development much of the slower social history of their mother countries. New South Wales was not long in providing an interesting parallel to the events in England that have just been narrated. The birth-rate of New South Wales, in the middle eighties, was, as it had been, high. But the literature of neo-Malthusianism had already reached Australia, and in May, 1888, a bookseller named Collins was fined five guineas and costs for selling Mrs. Besant's *Law of Population*. Collins appealed to the Supreme Court of New South Wales, which, in December, 1888, handed down a two-to-one decision in his favor.

The opinion of Mr. Justice Windeyer in that case has become a favorite document of the neo-Malthusians, for

[2] Perhaps none more strikingly than Miss Elderton's graphic diagrams in her *Report on the English Birth-rate*, Part I (1914) ("Eugenics Laboratory Memoirs," Vols. XIX and XX).

it amounted to a strong argument for the morality of birth control. Nor did Mr. Justice Windeyer, in his concern for the population problem involved, ignore the issue of free discussion. Referring with approval to the remarks of Lord Chief Justice Cockburn in the Bradlaugh-Besant case he declared his opinion that "all prosecutions of this kind should be regarded as mischievous, even by those who disapprove the opinions sought to be stifled, inasmuch as they only tend more widely to diffuse the teaching objected to. To those, on the other hand, who desire its promulgation, it must be a matter of congratulation that this, like all attempted persecutions of thinkers, will defeat its own object, and that truth, like a torch, 'the more it's shook it shines.' "

The effect of such an opinion on neo-Mathusianism in New South Wales was bound to be great. The Australian edition of the Law of Population has long since reached its hundredth thousand, although Mrs. Besant, after her conversion to theosophy, withdrew in 1891 her consent to the sale of the book. The birth-rate of New South Wales dropped sharply in 1889, following the Collins trial, and through the next ten years fell off by nearly one-third. Here again is a significant coincidence. The falling birth-rate would presumably have made its appearance sooner or later. The Collins trial precipitated its coming. By 1903, it had become so manifest that a royal commission was appointed to investigate its causes. This time, however, the authorities had learned discretion from experience. The detailed report of the commission was never made public, lest in its turn it should prove the means of depressing the birth-rate still further.

Perhaps in the course of time Americans also will learn

the lesson that mere denunciation of birth control characteristically defeats its own object. If we could be consistently medieval, if all the advocates of family limitation could be quietly spirited away, some progress might no doubt be made in stifling advanced ideas on the population question. But as things are, our undiscriminating prosecutions result in an indiscriminate publicity. By a confusion of issues they force earnest defenders of free speech in general, to abet, often reluctantly, the particular doctrines of some extravagant pamphleteer. Thus Bradlaugh and Mrs. Besant were led to circulate a book they could not wholly endorse; and thus today not all who defend the Sangers defend the Sanger pamphlet. What is worse, the attempt to suppress a radical movement ordinarily rallies to its support a flock of temperamental soldiers of fortune, fired with misguided enthusiasm, but ill-informed upon the real questions in dispute. Such an outcome must be unsatisfactory alike to enemies and to friends of birth control. There is too much notoriety and too little understanding.

The knowledge which has brought us power over human generation has brought with it one of the most portentous problems of modern society. Whether or not mankind shall be reproduced becomes in a new sense a question of volition, and consequently a question of responsibility. But the power to choose has come so suddenly that the sense of responsibility seems as yet inadequate. The new knowledge strains the old traditions. In other words, our problem of population involves a moral problem.

Alarmed by this situation, some persons demand a ban on knowledge. But the problem is not to be dealt with so summarily. There is no likelihood that it can be

solved, in reactionary fashion, by exhorting the people to forget what they have learned and walk in the old ways, and by setting the police on them if they refuse. On the contrary, it is virtually inconceivable that the unsettling knowledge will be lost or the perilous power wholly relinquished. All over the world the trend of events has seemed to exclude such a possibility.

It thus becomes expedient to accept the knowledge, and to bend our efforts to working out new standards by which its exercise may be made to yield a clear preponderance of benefit. This is indeed no simple task; but its difficulties, viewed in a long perspective in which even now we begin to see them, may prove to be mainly difficulties of transition.

Meantime, the transition is none the less critical; for the numbers, and perhaps yet more the quality, of the race are at stake. If the readjustment is to be accomplished without excessive shock, it is imperative that the means of birth control should be made known wisely and temperately, and only so fast and so far as experience can bring with them the compensating influence of a readjusted sense of responsibility. The fanatical neo-Malthusian, the bigoted prude, the hysterical patriot who sees national greatness only in swarming numbers, must all give way to someone more highly endowed with the saving sense of proportion, and hence better able to fit the power of birth control into a proper place among the constructive forces of civilization.

VIII

PROBLEMS OF POPULATION AFTER THE WAR[1]

The prophet is proverbially without honor. Whatever hardship this may imply in other cases, in the case of the population prophet it is simple justice. Only too often has it been proven how fallible are predictions of future movements of population. In particular, he who forecasts the changes of population which are likely to follow the present war forecasts the consequences of causes at best obscure, operating under conditions which themselves remain profoundly in doubt. The suggestions of the following paragraphs, therefore, are not put forward as prophecies, but rather to indicate some of the possibilities which may have to be dealt with when the great conflict comes to an end and the processes of readjustment begin.

The direct effects of the war upon the populations of the belligerent nations are but too terribly apparent. Not only have deaths and incapacitating casualties run into the millions; not only is there this enormous loss of numbers: the wastage has been so concentrated among males of fighting age as to work a serious distortion of the population structure. Economically, the proportion of producers to consumers has been reduced. Biologically, the balance of the two sexes is disturbed in the reproductive years of life and the capacity of

[1] Paper read before the American Economic Association, December, 1916. Reprinted from the *American Economic Review*, Supplement, Vol. VII, No. 1 (March, 1917).

monogamic increase is correspondingly impaired. Even though birth-rates may nevertheless rally at the close of the struggle, this disproportion of ages and sexes cannot thereby be corrected. It will leave its disfiguring and disabling effects for decades to come.

Nor will the present population alone bear the scars. If there is any significance in heredity, and any truth in the contention that modern warfare accomplishes an adverse selection through the slaughter of the physically bravest and best, then the new generation and through it posterity must be the continuance of an impoverished breed. This, too, is a damage that mere volume of births can hardly mend. The two inches of average stature which the French people is said to have lost in the Napoleonic wars were lost in spite of a tolerably vigorous revival of the birth-rate after those devastating campaigns. And though we may question whether the selective agency of war operates with such obvious effect upon the human characteristics of body and mind that most concern us, we cannot well doubt that lasting modifications of our racial endowment are now in process on the battlefields of Europe. It does not follow that deterioration will be at once manifest when the next generation succeeds to leadership in Western civilization. Indeed, it is more to be feared that civilization may conform itself imperceptibly to the lowered standards of a depleted stock. In any event, history that might have been is now cut off with the lives of those whose unborn descendants would have made it. Nor is the history of Europe alone involved. Civilization is hardly local nowadays; but if it were, the basis of the changed civilization would be brought to America by immigrants, through whom we shall

probably be made to share, in our own flesh and blood, the racial calamity of what we have been pleased to call a foreign war.

With the return of peace we are likely to see the beginnings of new public policies with reference to problems of population. For this there is historical precedent as well as inherent probability. The wars of 1866–71, which left a unified German Empire confronting the shaken military power of France, thereby gave a special incentive to the fostering care of the population at home and abroad which has marked the state policy of imperial Germany; and at the same time they aroused that semi-official solicitude or even alarm with which the French have since regarded their dwindling birth-rate. The Malthusian doctrine, itself an indirect product of the French Revolution, and long a dominant influence in French economics, almost abruptly lost its vogue in France when first the menace of a united Germany and then the humiliation of actual defeat gave rise to the more militaristic views which characterize the French attitude on population today. More recently, the growth of the English eugenics movement following the Boer War has afforded a fresh reminder that population policies, like other national policies, are often tested by fighting.

In the past the concern of nations for questions of population has been based on a conviction that the balance of population is the balance of power. Superiority of numbers was of course not all: money was long ago recognized as the sinews of war. But it was felt that, given exuberant numbers, the requisite national wealth would be forthcoming. Even beggars, said one old writer, can be taxed. Doubtless, so long

as the necessary equipment is available, the military importance of great numbers of men is hard to exaggerate. But the technique of modern warfare, exemplified especially by the unparalleled use of artillery and high explosives, demonstrates how little can be accomplished hereafter by men alone. War is more and more a supreme development of industry and finance. Nations which prepare for war must shape their policies accordingly. Quite possibly the economic power to wage a successful war will not be found greatest where there has been the greatest increase of population.

At this point the program of military preparedness encounters the standard of living. We are familiar with the notion that a man's standard of living is defined by the wants he insists upon satisfying before he is willing to enlarge his family. If, now, he is compelled to make contributions to the state treasury for military purposes, this public demand upon him takes precedence over even the preferred items of his private wants, and tends by so much more to reduce that part of his resources which might be devoted to provision for children. No nation, therefore, that has to reckon with the voluntarily small family can expect to add indefinitely to the burdens of taxation without encountering a still further restriction of births. Efforts to achieve preponderance of armament and organization may threaten the loss of preponderance in men.

In war time admittedly standards of living change and their effects on the birth-rate are modified. Motives of patriotism lead to a cutting-down of the scale of personal expenditure, the more easily because at such times a universal rivalry in acts of patriotic devotion supplies an equivalent for the various emulative conventionali-

ties of ordinary life. Moreover, by challenging the nation's power to survive, war seems characteristically to intensify the desire for children. Possibly a change of attitude is foreshadowed by the present revulsion of feeling against bearing children for slaughter. However, all these considerations are aspects of the psychology of war. They accompany phases of social life which are happily exceptional. It is in the longer intervals of peace, when standards of living operate more normally, that populations are replenished, war chests are filled, and the debts of old wars are paid off.

Aside from all questions of future military establishments it has yet to be seen if the stupendous war debts that are now rolling up can be carried and eventually repaid without serious disturbances of what has been the prevailing rate and manner of the increase of population. Because just now victory in the European conflict seems supremely desirable to the several belligerents, they have seen fit to levy the cost of their respective struggles for victory upon a subsequent generation. Thus the economic choices of Englishmen and Frenchmen and Germans for years to come will to an oppressive degree have been already exercised for them, vicariously, and through the bloodshot eyes of deadlocked combatants. This is the natural consequence of deficit financiering in time of war. How disturbing may be the effects upon habits of consumption, and, through standards of living, upon population, can only be conjectured. This whole vague but momentous issue lends new interest to the question of how the burdens of war taxation are to be distributed in the coming years among the various economic and social classes.

The problem of the differential birth-rate, which the foregoing discussion suggests, is likely to assume a special importance in the United States, after the war. Our well-to-do and highly conventionalized classes are closely influenced in their manner of life by the ways of the corresponding classes abroad. If the war unsettles economic class distinctions in Europe, we may expect an indirect unsettlement here. But we have our own disturbances as well. The munitions contractor and the whole group which he typifies will confront us again with the familiar and troublesome social ferment of a *nouveau riche* class arising from the commerce of war time. So long as birth-rates are sensitive to emulative standards of living, the balance of increase among different classes will hardly pass unshaken through such an economic readjustment. We must prepare for a fresh crop of small families with large fortunes, and for a revival of restiveness on the part of those persons who see in that phenomenon disregard for an indispensable condition of national welfare.

In current discussion of population questions, and particularly questions of eugenics and birth-control, a most helpful part has been taken by women. To the intelligent woman the importance of such questions is self-evident. She looks upon them sanely, frankly, and earnestly. She finds herself less embarrassed by self-consciousness in such discussions than do most men, because she is more conscious of the race interests that are at stake. We could ill spare the counsel of women in such matters, or lose their leadership in attempts to reach public opinion and open the way for reforms. If a period of militaristic reaction should follow the war, with the effect of exaggerating masculine virtues and

reducing the opportunities of influence permitted to women, progress in dealing with fundamental problems of population would be seriously set back.

Our national consciousness has been quickened by the events of the last two years. Possibly this may prove to be the most important result of the war, so far as our own special population policies are concerned. In the past, indeed, the inundating stream of immigration and the disproportionately high birth-rate among the foreign-born have aroused a certain sense of national peril —a fear lest our democratic institutions should not endure if they were abandoned to a more and more alien citizenry. For the most part, however, the national motive has not been conspicuous among the active influences determining our increase as a people. Individual self-interest has been the chief counselor, though the dictates of self-interest do not always work out social welfare in the long run. On the other hand, the more recent eugenic ideal of race betterment is too abstract to appeal with practical force to the populace. If some definite and affirmative population policy had been associated in our minds with a sense of national loyalty and the effectual motive of patriotism, the response might have been more considerable, especially since the nation, unlike either the individual or the biological race, has power to support its constructive programs by legislation and the agencies of public administration. Unfortunately national interference in our population questions has heretofore been too typically negative: it has manifested itself in minor restrictions of immigration and in the enactment and sporadic enforcement of censorious blue laws designed to compel parenthood

through ignorance. But a changed attitude may come with our new desire for a thoroughgoing national preparedness and with the awakening sense of our obligations as a nation in a world of nations. Precisely what form a national population policy might best take in this country remains problematical. Probably it would provide for the adequate segregation and care of the hereditary defectives. Possibly it would include a system of maternity benefits. Certainly it should recognize that parenthood is affected with a public interest, and that those parents who accept and perform their function with a due sense of its social responsibilities must in fairness be safeguarded and sustained in the performance by the community which is a beneficiary of their conduct. Such a program must necessarily grope its way slowly at first. Yet, if an enlightened spirit of nationalism shall but lead us to make a beginning, then at least one good thing will have come to us out of the war.

IX

EUGENIC WORTH AND ECONOMIC VALUE[1]

It has come to be quite a trite observation that the well-to-do in our modern communities have comparatively few children. We are disposed to look upon the fact as established: interest centers therefore in the interpretation. Most of the commentators are concerned, if not alarmed; for they fear that the best elements in our racial stock are dying out. So we find salvation by eugenics preached like a new evangel, in the hope that the able, the enterprising, the economically successful may thereby be induced to mend their ways and desist from a manner of life so opposed, seemingly, to the best interests of the race in the future.

In this paper I wish to inquire if the difficulty does not lie deeper than we always realize—if it is not a manifestation, in fact, of a real difference between eugenic and economic standards. Are economically successful persons presumptively persons of great eugenic potentialities—persons who have great qualities to transmit, and the quality of transmitting them greatly? Are the human traits that constitute eugenic worth virtues of the kinds which are highly rated under our prevailing system of economic valuation?

So long as we are content with a naïve view, the objectives of eugenics and of economic activity seem harmonious enough. Eugenics seeks to improve the hu-

[1] Unpublished paper read before Section F of the British Association for the Advancement of Science, Toronto, 1924.

man race by fostering and perpetuating what is best in the race, generation after generation. Economic effort is directed, ostensibly, toward assuring better external conditions of life, in each generation. Without economic provision in the present mankind would never live to see the eugenic future. Our economic arrangements do not, to be sure, allot the means of existence by specific preference to those individuals whom the eugenist adjudges the best. On the other hand, economic success comes most often to persons of recognized ability, and ability of that sort is commonly rated high in the list of eugenic excellencies. Why otherwise should eugenists deplore the faltering increase of the successful? If, then, the economic ambitions of our day appear, sometimes, at cross-purposes with our ideals for the race-future; if economic procedures, intended to maintain our existence, stiffen into economic conventionalities that threaten our existence, the perversity of the situation may strike us as paradoxical and perplexing, but not, perhaps, as profoundly difficult—at least so long as we are content with a naïve view.

Let us look more critically at the issue, and first at its economic aspect.

If the motives of economic action ever were so simple and rational and direct as the foregoing interpretation implies, they are so no longer. In our modern economic organization of inconceivably numerous specialized parts, linked into a sort of unity by the principle of exchange value, our habitual objectives are only means to ends. The remote ends we have little or no practical occasion to define: we fit ourselves to the narrower frame of existence that is set by an intricate division of labor. We work for a living; but the living is not

abstract biological life. It is money, first of all, or at least purchasing power. Beyond that, it takes on substantiality in terms of certain goods, of forms that have become fixed in the course of a long, specialized industrial evolution. The sources of the goods are, again, as a complex, specialized commercial evolution has determined. The very wants which the goods are to satisfy are shaped by the conventional usages of a specialized social order, in which tastes are differentiated through the differentiation of economic classes, assimilated by emulation of the distinctive; or momentarily united in a fad or fashion which finds presently fresh reflection in a specialized technique of production. The command of purchasing power, too, as we must certainly not forget, is contingent upon ability to direct one's efforts into activity well rewarded in a specialized market, however slight the apparent connection between one's immediate product and one's proper needs. Thus at every point we must interpret ourselves in terms of specialization and exchange. The effect is to substitute proximate objectives for ultimate. Economic motives take on a characteristic quality of indirection. We do not seek outright what in a simpler sort of economy might have seemed pre-eminently worth seeking. We are satisfied, in the first instance, and often permanently, with something equivalent in exchange value. Instead of insisting upon the genuine, as the eugenist might define it, we are ready to accept something economically just as good.

In so far as every-day rewards and opportunities are determined for each individual by the exchange value of what he does, it is only to be expected that even ideals of achievement should be suggested by economic valuation. Unconsciously, the eugenist himself judges suc-

cess by the standards of the market place. Here, then, comes the definite question: Is excellence of this sort—excellence that pays the possessor—the proper typification of eugenic worth? Putting the question the other way about, is eugenic worth an economic good? Do the traits that constitute eugenic worth satisfy the conditions of value and feel in consequence the encouragement of economic reward?

Prima facie, eugenic excellence might seem to fall in the category of things desirable, and to possess, therefore, the first constituent of value. Nearly everyone might wish, in the abstract, that his generation should have the qualities that promised most for the welfare of the future. Whether or not actual persons, rated eugenically superior, would command support and preferment, is another and a more practical question. The answer to it involves consideration of other determinants of value; particularly of the properties traditionally called scarcity and appropriability. There is of course no price for things more abundant than our felt needs require, or for powers the enjoyment of which is indissociable from the person who possesses them. Does eugenic excellence enter, with the importance of an element that cannot be cheaply replaced, into the productive combination of individual talents that our exchange system remunerates? Unless it does, why should it be valuable, in the sense in which economic goods and services are valuable?

At this point a more precise conception of eugenic worth is in order. Some of the eugenic literature, continuing Galton's emphasis upon the inheritance of genius, propounds the great-man theory of eugenics and takes, in effect, the position that the persons of greatest

eugenic worth are those of most distinguished special ability, judged according to standards of the present. A distinguished person, in this context, is a person who does some approved thing in an unusually effective way. He is an exceptional person—a scarce person, by definition. If approval of what he does takes the form of recognition of economic utility in what he does, as is commonly the case, his achievement may clearly have economic value. The great-man formula of eugenic excellence is hence not incompatible with exchange-value theory. Indeed, as ordinarily interpreted, it puts too much reliance on what are hardly more than disguised economic valuations. Its defect is rather to be found in the difficulty of its application, and in the biological problem it proposes. One may note in passing that if ever the eugenist succeeded in multiplying what he now calls "genius," he would cheapen it and destroy the basis of its distinction. The value that marked it at the outset would cease to attend it: the intended cult of greatness would presently become a pursuit of novelty. But this overlooks a prior difficulty. There are all kinds of superlatives. Could a single race, actuated by a single eugenic ideal, breed to separate perfection all sorts of genius at once? Galton himself seems to have fallen into perplexity at this point, and to have made only a lame escape. "The aim of Eugenics," he concluded, "is to represent each class or sect by its best specimens; that done, to leave them to work out their common civilization in their own way." The proposal to represent each class by its best comes very near to a meaningless begging of the whole question. Perhaps Galton was tacitly thinking of types already somewhat defined in other ways—as types of economic

specialization, for example. At all events, if these were left to themselves to work out their own destiny—intermarrying, and changing their standards as time went on—the result would probably be biological mediocrity as confused as the intentions that first set the experiment in motion.

What seems the more tenable conception of eugenic worth identifies it not so much with the special qualities that bring high individual reputation as with something more general—an ideal of normality, modified a little in the direction of what is conceived to be desirable change—in other words, a conjecture of what will be normal after human evolution, aided by eugenic selection, has run a bit farther on its course. Such an ideal, one may justifiably object, is very vague. It is, moreover, only a little less relative to present standards than is eminence or genius. Its virtue is its moderation. It proposes in substance that humanity shall enter the future rather better equipped with the true-and-tried, all-around qualities that we believe have served well in what we consider the significant past. Put negatively, it aims to rid the race of defects of physique and intelligence which in all our experience and hence to all our prediction stand in the way of human welfare and achievement. In this negative form, it is the objective of the so-called negative eugenists, whose program is primarily a program of eliminating from each new generation the most glaring and unquestioned defects of its predecessors. Tne negative eugenic policy thus discards a defective minority to achieve a sound majority. Its preferred group is not a distinguished few, but a normal many.

This general conception of eugenic worth gains support

from another consideration. The individual that the orthodox eugenics aims to develop is expected to measure up to a twofold standard of competency. He must be a useful member of his social group in his own generation, at the same time that he is transmitting useful qualities to posterity. Furthermore, unless eugenics contemplates a radical change from our present social order he must, in the many-sided rôle of parent, contribute a germinal endowment, a pattern of conduct by precept and example, and protection and sustenance while the processes of biological and social inheritance work out their effects. The eugenic ideal, it would seem, is so broad and inclusive that it proposes to reconcile, in each person, what Spencer called the antithetical demands of individuation and genesis.

In its efforts to make the majority of mankind sane and sound and versatile, after this fashion, will the negative eugenic program find support in the competitive incentives of economic exchange-value? To any decisive extent, it would seem not. If health and intelligence were made common possessions of all but a minority, they would retain little economic advantage. Their specific productivity would be leveled away. That the new level might be higher than our present level, judged by our present standards, is irrelevant. In a community of Titans titanic effort is common labor. Even with us, physique that does not greatly surpass normality may be spent in ill-paid exertion. On the contrary, physical defects, if only they are sufficiently monstrous, command the remuneration that comes to whatever is interestingly out of the ordinary. Tom Thumb and the Siamese twins have an assured livelihood. Somewhat similarly, the pressure of competition and the dispro-

portionate reward for extreme development of marketable ability tempt persons of talent to burn their candle at both ends, sacrificing health and full participation in social and racial life to the temporary enhancement of their valuation. Although we murmur our protest at such shortsightedness, we probably suspect that it would be economically hazardous for ordinary men, without assured income, to insist upon the regimen of diet, sleep and recreation that would keep them in full health. Of human resources as of natural resources it may be said that the individual owner cannot afford to save until impairment has brought scarcity and scarcity has enhanced value. Reverting, then, to the plan of the negative eugenist, there is reason to fear that some of the small uneliminated abnormal minority, and such individuals as could be induced to undercut the established health standards of the community, might actually gain certain economic advantages at the expense of their commonplace superiors.

The cheapness of parental inclination and even of definite qualifications for parenthood is tragically familiar. Physical ability to have children is wanting only exceptionally, and seems about as common among persons of low economic rating as among the wealthy and prosperous. Physicians and others have repeatedly commented in astonishment on the robust appearance of babies born into wretched, poverty-stricken surroundings. They feel, as the eugenist must feel, how ironical it is that parents who can endow their children with potentially exuberant health may lack the earning power even to maintain them alive. The moral qualities of parenthood seem likewise lavishly bestowed and stingily rewarded. Parental devotion amounting to

heroism is so nearly universal as to be economically nearly worthless. Mothers face starvation for their children, but that does not support the children, unless perhaps the story comes to the ears of persons in another economic sphere, with the appeal of something extraordinary. Of all human occupations parenthood is one of the least specialized. There is correspondingly little money in it.

Is it possible that in the interest of eugenics parenthood might be made a special and distinctive calling, open only to persons of exceptional qualifications? The proposal is old, at least as a fantasy. In relation to recent tendencies of scientific discovery and public morals it seems, probably, less fantastic than it might formerly have seemed. Already a family of any considerable size is coming to be thought of as an economic class-phenomenon. And though the *de facto* specialization in parenthood that we observe is by default, for lack of economic incentive and, in the eyes of the eugenists, perverse and mischievous, it none the less demonstrates that with the coming of voluntary control of birth the exercise or non-exercise of the functions of parenthood has been made sensitively responsive to economic influences. Can we anticipate, then, that the disharmony of eugenic ideals and economic motives in our present social order may be resolved by a reorganization of human reproduction as one form of economic specialization?

As it is, man appears to be the only creature that has developed an extreme social division of labor without the concomitant differentiation of a special reproductive type or class. But the analogy of the beehive and the ant-hill, always tempting, is not always valid. Until

we rid ourselves of most of our males, and contrive some variation of dietary or other procedure for adjusting the proportionate numbers of breeders and workers, the parallel is of little use to us. Does not the proposal to make parenthood a separate vocation leave us, then, in much the same dilemma as before? If we assume that eugenic merit lies in outstanding excellence of any one of many different sorts, specifically inherited and specifically transmitted by inheritance, then how can a few individuals, specifically fitted to be breeders, recruit the ranks of all the other diverse specialists? If on the other hand we propose to breed an all-around, versatile stock, and to train up specialists anew in each generation, on what inducement in the form of competitive economic remuneration can we depend to assure a due quota of breeders?

Is there any such economic reward for parenthood as might, under a competitive exchange economy, induce a special, qualified group in the community to adopt it as a vocation and source of livelihood?

There is often, of course, a direct but deferred return in the form of contributions by grown children to the support of their parents; and for this reason, large families have commonly been considered an economic resource under certain conditions—in newly settled agricultural regions, for example, or in mill-towns where laws against the exploitation of child labor are lax. In general, we may say, there is a possible basis of parental income in the discounted future earnings of the children. But this is nowadays more nominal than real, for many reasons. The human generation is long; the advances are heavy; the return is slow. Apart from the obligations of sentiment and certain short-lived legal rights,

there is no lien to secure repayment. The parent, in our time, is less and less an owner. He creates his kind at his own free will, in response to his affections; and his progeny, thus created, assume in their turn the rôle of free beings—not mere pledges for debt. On the whole it seems unlikely that even the direct costs of parenthood are ordinarily repaid. Yet before parenthood can be attractive as a business there must be expectation not only of full reimbursement, but of net returns as great as could be earned by persons of eugenically approved ability in other callings. The small families of the prosperous clearly imply that the emoluments of family life are deemed insufficient.

The incentives to parenthood which free competition fails to offer might no doubt be provided in some measure by deliberate social arrangement. The whole case for eugenics rests on a premise that the future birth-supply is a matter affected with the public interest. If the public that pays taxes and determines public policy is convinced of the paramount importance of eugenic breeding, it can, within limits, set up such inducements and impose such restrictions as its wisdom can devise. The collisions with economic motive which this discussion has been intended to suggest are mostly characteristic of an economic system in which the valuation of services is determined under conditions of comparatively free individual initiative and competition. Subordination of individual freedom to the supposed general good would eliminate much of the difficulty by abolishing its competitive basis.

But though state action might simplify the economic problem, it could not wholly remove it. In order that the cost of subsidizing reproduction might be minimized at

the same time that a commanding remuneration was paid to members of the selected reproducing group, it would be expedient that the number of persons in that group be kept as small as possible, and that each should produce the largest possible number of children. The effect of such a consideration upon the present institutional and biological basis of reproduction might be quite beyond our prediction. If one is prepared to anticipate the fulfilment of Mr. Haldane's recent prophecy of ectogenesis, with its transfer of human multiplication to the biochemical laboratory, one may perhaps picture parenthood upon a royalty basis—the donors of the essential tissues receiving a small per capita return for each synthetic orphan the technicians turn out. But that eventuality does not yet confront us.

However state intervention might reduce the economic problem, there would remain the problem of formulating a eugenic policy that is sound and that commands unflinching public support. This problem is excessively difficult if not humanly insoluble. Incidentally, any plan of social reorganization which does away with competitive exchange value as a criterion of personal achievements will draw attention to one of the eugenist's besetting difficulties. He has plausibly but unsoundly relied on evidence of economic success as a sign of eugenic fitness. If competitive economic rewards disappear, and the prestige of competitive success goes with them, eugenics will be driven to devise new selective standards of its own.

What has preceded may be recapitulated in a few words. A new economic order might conceivably accord with a eugenic policy: between current eugenic programs and the actual economic setting for which they

are proposed, there are indications of a real contrariety in principle. Are we to conclude that the eugenists are committed to two incompatible ideals? Possibly we shall better describe the issue if we say they are at the same time assuming the present order and hoping for change.

Eugenics is an attempted rationalization of a hope. Its intellectual interest lies in the ingenuity and suggestiveness of the parallels it draws between man and other living forms; but its great appeal is in its aspiration. In essence it is an earnest, audacious wish. That in part accounts for its contradictions. Our visions of a better order of things are likely to turn out a bit paradoxical: in a spirit of protest, we represent the ideal as the opposite of what we have experienced; but our limited imaginations trick us, and the detail of the picture is full of the very impedimenta we should like to discard. Thus we hope for a life to come in which all the shortcomings of this life may be made up; but we fill it with anthropomorphisms, big and little. In much the same way we desire that we may have, in our posterity, physical continuance as a solace for our own mortality, and physical powers we have lacked; but in specifying those powers we betray the same limited vision and inconsistency. The eugenic program proposes, for the race of the long, ideal future, such traits as have served the advantage of the individual in our contemporary social order of specialization based on exchange. Yet the eugenist has been among the first to fear that these competitive traits are self-exploiting and self-destructive, and that they lead to impairment or even extinction of their own stock.

X

MALTHUS AS THE STARTING-POINT FOR RECENT DISCUSSION OF POPULATION THEORY[1]

There are certain strategic advantages in taking Malthus as the starting-point for a study of population theory, although he was by no means the first to interest himself in the numerical aspect of population problems, nor the first to suggest that population continually presses on subsistence, that numbers and food supply increase at different rates, and that checks are at work to keep the population in bounds. Nevertheless, in a distinct sense it may be said that Malthus founded the modern theory of population. True, he had precursors in the political speculative thinkers of the eighteenth century, and some latter-day writers consider that Malthus has been superseded; but to the student of population theories Malthus remains an imposing figure. In the writings of the forerunners of Malthus paragraphs and sentiments may be picked out which are brilliant; but the authors seem not to have set great store by these stray remarks, in which they characteristically disposed of the problem with a paragraph or two in passing and elsewhere showed a total lack of appreciation of what they had said. They appear to have had no interest in developing their chance remarks into a complete theory. Malthus, in contrast to them, devoted a book to the sub-

[1] Compiled by the editor from manuscript notes and lectures of James A. Field.

ject and gave it the title *An Essay on the Principle of Population.* In this treatise he brought together all the things which others had noticed, classified the ideas and presented them as unified parts of a whole, and pursued the inquiry into the causes and effects of population to ultimate terms; and what is, perhaps, more significant for the development of method, he later brought to the support of his thesis a great mass of inductive detail. Malthus did not start out to write a book on population, and that he did so was something of an accident. He was led into it through another primary discussion; but when he finished, he had illuminated the field as had not been done before.

In his own day and for a long time afterward Malthus was regarded as an innovator. His true claim to fame, however, rests not on the originality of his ideas but rather on the fact that people listened to what he said. That he aroused the interest of the world to the population problem is due in part no doubt to the fact that the view which he stated was highly pertinent to the needs of the upper classes, who had been thrown into something of a panic by the French Revolution and the writings of the Perfectionists. The concise, epigrammatic style in which he wrote challenged refutation, and many of his opponents have thought that by attacking his epigrams they were attacking his argument. Almost innocently, Malthus started a controversy and stimulated the production of a literature so remarkable in both degree and quality that the population problem became recognized as a major subject of interest by the scholar and the statesman.

The early days of Malthus were contemporaneous with the great inventions which revolutionized British

industry in the latter half of the eighteenth century. By the time he was a university student there had begun that social displacement which came with the Industrial Revolution. The shift of the industrial center from the south to the north of England had meant a distressing maladjustment of population, resulting in miserable conditions in mill towns and agricultural districts. The inclosures and the new agricultural methods had hastened the disappearance of the yeoman class, and throughout the social structure there was a general displacement of class status. With the changes had come an enormous increase in population. The whole picture was one of people seeking to rearrange themselves in accordance with the demands of the new industries. They were seen to be too numerous in some places, and rushing into others in great numbers. In the mêlée the traditional controls and stabilizing factors of the older life were broken down; and everywhere there was distress, discontent, and confusion.

An economic system in a state of transition brings to light the evils and discrepancies of social institutions which had their origin at a previous period. In England the Poor Law was the only social machinery which existed for taking care of the difficulties caused by the changes in population, and by 1750 it was already a relic. In the last years of the eighteenth century it was conspicuously failing to meet the need, and many attempts were made to rehabilitate it. Two phases of the law were particularly open to attack: the law of settlement and the allowance system. Under the Elizabethan Poor Law the care of the poor was left to the administration of local officers, and each parish met the cost out of a locally assessed poor-rate. In an individual case, the re-

sponsibility of the parish toward a destitute person was determined under the law of settlement. If a family was legally domiciled in a parish, the overseers were obliged to provide for them; if not, they could be sent on their way. The agricultural districts complained that the industrial towns exploited the resources of the laboring classes in good times only to send them back to the country when work was slack and public relief necessary. Each vied with the other to prevent persons from securing legal residence if there was a possibility that the new family would become paupers. The system facilitated a continuous floating-about of labor; it was admirably designed to keep the drifter drifting; and to it must be charged much hardship and injustice during the period in which industrial conditions were demanding a redistribution of population.

In 1769, under the pressure of distress, the workhouse test for paupers was removed and outdoor relief granted to able-bodied men and women on a large scale. The decentralized administration was inefficient in many places; and in some cases, undoubtedly, it was abused. The easy terms upon which outdoor relief was granted and the system of apportioning the relief according to the size of the family under the Speenhamland system contributed to the demoralization of the working classes. It undermined character, connived at deliberate desertion, encouraged illegitimacy, and in general defeated its own end. The poor-rate more than doubled in eighteen or twenty years prior to 1803. In that year it totaled £4,000,000, a figure which represented about one-tenth of the public revenue of England at a time when England was at war; and in spite of the tremendous expenditure, it was accomplishing little.

These social maladjustments were aggravated by the war with France. The burden of national taxation added to the irksomeness of the rates. Under the pressure of war statesmen were inclined to overlook the social consequences of a rapid increase in the population and actively to favor large families because mere numbers were considered essential to the success of the national cause. Pitt's Poor Bill of 1796 proposed extraordinary relief for those who had enriched their country with children.[2] In proposing a triple assessment to meet the costs of war, he advocated lowering the rate for fathers of large families and causing it to bear heavily upon the childless. The income tax of 1799 carried this idea into effect by discriminating in favor of the man with a family. The thinking people, on the other hand, were, on the whole, the ones who had to pay the war taxes and the high rates for the relief of the poor. They were also aware of what was happening in France and had no fancy for new ideas which might interfere with the success of the war or the security of their social status. The internal ferment of the Revolution had echoed across the channel, and the uneasiness of mind of the British upper classes expressed itself in the suppression of free speech and the habeas corpus suspensions. Those in power looked askance at any writings of socialist or utopian tinge and discouraged discussion of the problems of poor relief or of revolutionary ideas which would detract from the unanimity of the state. In the last decade of the eighteenth century gentlemen could not read Condorcet's *Esquisse d'un tableau historique des progrès de l'esprit humain*, and William Godwin's *Political Justice* and his *Enquirer*, with the same detachment as they had

[2] Malthus and Bentham later educated Pitt away from this point of view.

read Rousseau and Voltaire a few years earlier. As Bonar suggests, perhaps it was only the price of three guineas for which the *Political Justice* sold, and which prevented it from falling into the hands of the masses, that saved the book from suppression. The books of Godwin and Condorcet found their way into gentlemen's libraries; and it was a discussion of their doctrines of human perfectibility that started Malthus, then a young cleric, on the researches which have so closely linked his name with the principle of population.

Daniel Malthus, the father of Thomas Robert Malthus, was an English gentleman who lived comfortably on his private resources on a small but lovely country estate. He had started life in the conventional manner, but while at Oxford became discontented with the methods of education and left. He withdrew to his country home, there to ponder the injustices of the world. He was not a very practical person. Tradition has it that he was the literary executor of Rousseau. He was interested in the writings of Condorcet, Rousseau, and Godwin, and held a friendly view toward radical doctrines, but did not exert himself to the extent of becoming an active supporter of them. To the end he remained a country gentleman.

The point at which Daniel Malthus' radicalism asserted itself in action was in the education which he planned for his son. It was directed toward giving the lad the greatest amount of independence. Robert was not sent away to a public school, but received his secondary education from a tutor of emancipated ideas. But the son seemed not to have inherited the parental temperament. At the age of eighteen, he made the conventional choice of a university career. At Cambridge he

devoted himself to natural science and mathematics to the end, as he expressed it, that he might become "a decent natural philosopher." As his university life progressed, his interest turned toward political and quasi-political subjects, especially in their mathematical aspects. He graduated in 1788 from Jesus College with the rank of Ninth Wrangler. For the next years he stayed on at the university and received a Master's degree. Although he was writing during these years, nothing significant came from his pen until he wrote the *Essay on Population* in 1798. On leaving Cambridge he entered holy orders as one of the recognized procedures for a scholar of his time. Throughout his life the younger Malthus was an upholder of the class with which he was connected at Cambridge and in the church. The mixture of originality and convention in the education and later activities of Robert Malthus offers interesting data for the speculations of the student of social change. The father started in life conventionally and became eccentric. The son started with an eccentric education, became a conformist, and, through his writings, the leader of a conservative group. Did the times, one may ask, overtake the Malthusian liberalism of the earlier generation, or did the Malthus family, in the person of its most illustrious member, revert to conservatism?

The personal life of Thomas Robert Malthus was uneventful.[3] He was born in 1766 and died in 1834. He

[3] For detailed accounts of the life of Malthus, see among others: James Bonar, *Malthus and His Work* (2d ed.; London, 1924); William Otter, "Memoir of Robert Malthus," prefixed to the second edition of Malthus' *Political Economy* (London, 1836); Charles Comte, "Notice Historique sur la vie el les travaux de T. R. Malthus," *Recueil des lectures faites dans la séance publique annuelle. Académie des Sciences Morales et Politiques, 28*

married in 1804, the year after the publication of his enlarged essay. The marriage, which had been deferred for some years, was made possible by the assurance of the appointment to the chair of history and political economy in Haileybury College. He had three children, not the eleven daughters attributed to him by a zealous critic. Only two of his children survived him, and the line became extinct soon after. Although an ordained clergyman, Malthus' services to the church were unimportant. He held only one curacy, and that for a short period. The years of his adult life were spent as a teacher of history and economics in the East India College at Haileybury. There is no evidence that he was a great teacher. It was through his writings that he distinguished himself as one of the significant leaders in the social and political thought of his generation.

At the age of thirty-two Malthus fell into the historic argument with his father concerning the ideas of human perfectibility enunciated in the chapter on "Avarice and Profusion" in Godwin's *Enquirer*. The elder Malthus accepted the utopian conclusions of the essay. Robert Malthus protested, using the population argument as derived from Wallace's *Various Prospects of the State of Mankind, Nature, and Providence*.[4] Wallace had contended that the more you get rid of the evils of society

---

Decembre 1836 (Paris, 1836); William Empson, *Edinburgh Review* Vol. LXIV (January, 1837); J. O. Payne, *Collection for a History of the Malthus Family* (London, 1890); Harriet Martineau, *Autobiography* I (3d ed.; London, 1877), 209–11, 327–29.

[4] London. 1761. Wallace also wrote a book, *Numbers of Mankind in Ancient and Modern Times, in which the Superior Populousness of Antiquity is*

the more you are faced with the evil of redundant numbers.[5] The father was evidently struck by the son's presentation of his case, for he suggested that he write out his argument. This he did. It subsequently appeared anonymously as *An Essay on the Principle of Population as It Affects the Future Improvement of Society, with Remarks on the Speculations of Mr. Godwin, M. Condorcet, and Other Writers*, dated June 7, 1798.

This was the first statement of the Malthusian principle of population. It formed a sizable volume of 396 loosely printed pages. The general purpose of the *Essay* was to refute Godwin and Condorcet,[6] and the population theory was advanced only as "the most important argument."[7] Wallace's book gave the pattern for Malthus' treatment. The argument is stated with logical formality and developed with gusto. The language is pithy and the tone controversial. It was, as he said, written "on the spur of the occasion," and the author was not fully aware of what had previously been written on the subject. He refers to "the few materials which were within my reach in a country situation," and notes Hume, Wallace, Adam Smith, and Dr. Price as the "only authors from whose writings I had deduced the principle" of population.[8]

The argument of the first *Essay*, that "the power of

Maintained . . . . (Edinburgh, 1753). This book is often erroneously assumed to be the source of Malthus' idea.

[5] Wallace's treatment is remarkable in that he spins out an idea very fine and then confounds it halfway through the book.

[6] Preface to the first *Essay*, p. iii.

[7] *Ibid.*, p. 8.

[8] Author's Preface to the second edition, p. vii.

population is indefinitely greater than the power in the earth to produce subsistence for man,"[9] rests upon two postulates: first, "that food is necessary to the existence of man," and second, "that the passion between the sexes is necessary, and will remain nearly in its present state."[10] These postulates correspond to the two-sided dilemma of the population question: genesis versus individuation—the tendency to bring new beings into the world and the necessity of supporting those individuals. The first postulate cannot be challenged. The argument lies on the second. This assumption has been attacked by all the critics of Malthus. The statement is, indeed, ambiguous and Malthus himself used it in various ways and with various meanings. It is one of those tricks of style which made it such good sport to attack him. "Passion between the sexes" may refer to sex attraction or to the whole train of sex relations involved in procreation. It may mean the simplest aspect of the sex instinct or the whole series of relationships included in an elaborated definition of reproduction. If the chain of the reproductive process is broken after the first link, the "passion between the sexes" does not involve the population problem at all. Again, in what sense is this passion "necessary"? Is it in the sense of being indispensable for the reproduction of the race? To Condorcet, inspired by the picture of a future earthly immortality, passion would not be indispensable to this purpose. Malthus, however, abjured these visions of earthly immortality and assumed a limited term of human life and the desirability of a continuing human existence. That being the case, does not passion become desirable? Should not we be glad that we have it? But

[9] First edition, p. 13. [10] *Ibid.*, p. 11.

Malthus insisted upon viewing passion as a trouble-maker. The difficulty lies in the amount of it which mankind possesses. There is too much of this factor. The existing degree of passion is not indispensable, even though some degree of it is, if the race is to be maintained. If the term "inevitable" is substituted for "indispensable," it gives the notion that mankind is bound to have the passion and undoubtedly has too much of it. He has more of it than he can manage properly, and that causes difficulties. Malthus used the term "necessary" to cover both meanings: the power of reproduction is *indispensable* if the race is to go on, but the irresistible impulse of reproduction is *inevitable* and leads to all kinds of difficulties.

The last clause of the second postulate also calls for examination. By the statement that the passion between the sexes "will remain essentially in its present form," Malthus meant to imply that here we have a human motive which will be a source of problems forever. This assumption of a long future was necessary if he were to attack Godwin and Condorcet. The moment that he concluded that there is a way out in the long run he lost his argument. This premise is the basis of the geometrical ratio of population increase. The validity of the geometrical ratio depends upon two constants: a constant interval and a constant multiplying factor. The individual comes to maturity at a certain age and has the instincts and passion resulting in reproduction. If either of these constants fails, the geometrical progression no longer holds and the formal argument is unsound.

Having set forth his postulates, Malthus proceeds to state the arguments to be proved. These are (1) that

population, unchecked, increases by a geometrical ratio; (2) that food increases only by an arithmetical ratio; and hence it follows (3) that the conflict between population and subsistence can be resolved only by subjecting population increase to various checks which render it compatible with subsistence. It is evident that if the ratios work themselves out, an impossible situation is created, for the arithmetical ratio soon fails to support the geometrical. What is it that defeats this tendency? Malthus' answer is, the checks. In the first *Essay* they manifest themselves in one or the other of two forms, misery or vice, or both; and both are thoroughly undesirable. Early marriages mean large families and the misery of want among the lower classes; deferred marriage "almost necessarily, although not absolutely so, produces vice."[11] Even in the most vicious societies the constant effort toward population increases the number of the people before the means of subsistence are increased. Hence, there is an oscillatory motion of the checks. Population increases at one period, outruns the food supply, is thrown back by the operation of misery and vice, and then starts forward again, so dooming the masses of mankind to an inevitable poverty. In taking such a view of the behavior of population growth it would appear that Malthus was captivated by his own logic. The idea of an oscillation comes from thinking first of one side of the problem and then of the other. If both sides are considered at once, it is clear that this is what *would* happen, not what *does* happen. If the checks operate, they hold population within certain limits and prevent these oscillations. There is, however, a certain rhythm in births and deaths, dependent

[11] *Ibid.*, pp. 28–29.

upon harvests and on the ups and downs of the business cycle. Malthus touched upon this phenomenon, but adduced very little evidence to illuminate it in the first *Essay*. This rhythm of the vital factors of population is still a subject of speculation among scholars, and it still eludes full explanation.

There is a hint of natural selection and the eugenic idea in the reference to Maud the Milkmaid;[12] but evidently Malthus did not consider it very important, for he took up the idea only to drop it.

The *Essay* is a commentary on the dualism of Malthus' character. He is the scientist who "has not acquired that command over his understanding which would enable him to believe what he wishes, without evidence,"[13] and he is also the priest devoted to vindicating the ways of God among men. In the later chapters of the *Essay* he tries to square his postulates with the wise designs of a Divine Providence, and he shows to his own satisfaction that there was a benevolent purpose in the principle of population. God had created the world as it was, not to test men by a state of trial, but to afford them a process of discipline in which they might develop the virtues of regularity and calculability upon which civilization rests. If life were too easy, man would never realize his possibilities. The principle of population had been put into the world in order that man might discipline his reason. This hint of theodicy disappears from the later work. Malthus explains this omission in the Preface to the second edition on the grounds that he desired to protect the purchasers of the first *Essay*, and because the section "did not suit the different plan

[12] *Ibid.*, pp. 163 ff., 169–71.

[13] *Ibid.*, Preface, pp. iii–iv.

of treating the subject"; but he hazards the hope "that they may still have their use."[14]

The *Essay* was an immediate success. Godwin quickly learned its authorship and we find him writing to Malthus in 1798. The reception which the *Essay* received supported his own growing interest in the subject and encouraged him to set about the study of population in earnest. The second edition of the *Essay*, which appeared in 1803, was practically a new book. During the interval since the publication of the first *Essay* Malthus had devoted his leisure to an exhaustive study of the writers on population and had found that "much more had been done than I had been aware of, when I first published the Essay."[15] He had traveled on the Continent, visiting Germany, Sweden, Norway, Finland, and part of Russia in 1799; and in 1802–3, during the Peace of Amiens, he had visited Switzerland and France. Although the researches entered into between 1798 and 1803 had indicated a literature so considerable "as to create a natural surprise, that it had not excited more of the publick attention."[16] Malthus still regarded his work in the attitude of discovery, and the analysis of the checks to population growth as his most significant contribution.

The second edition contains a great deal of illustrative material which he had gathered in his travels. It is much changed and enlarged, and the argument is qualified in many respects. In 1803 Malthus was no longer arguing against Godwin and Condorcet; he was really writing about population. He had no formal premises which he set out to prove by logic, but there was a great mass of

[14] Author's Preface to second edition, p. v.

[15] Second ed., p. 1. [16] *Ibid.*, p. iv.

well-marshaled factual material to serve in place of dialectic. The alteration in point of view and method of inquiry are reflected in the title of the new work. The first *Essay* purported to set forth the "Principle of Population as *It Affects the Future Improvement of Society*," and specifically directed its remarks against the "speculations of M. Godwin, M. Condorcet and Other Writers." The title of the second edition asserts a predominant interest in the principle of population in "Its *Past and Present Effects on Human Happiness*," and "*Our Prospects Respecting the Future Removal or Mitigation of the Evils Which It Occasions*." Malthus had ceased to be the clever controversialist. He preferred the rôle of the economist interested in the problem of population as such. But his book is not for the savants alone. The general views expressed in the first edition might lead to interesting speculations among the élite, but they were not conducive to the promotion of concrete reforms. In his second edition he was proclaiming the truth to the people with the avowed purpose of advancing the "practical good."[17] He did not withdraw behind an "impregnable fortress"[18] by making generalizations that could not be refuted or proved. His object was to bring out his subject so that it would have an appeal to matter-of-fact minds, and thus give it "a more practical and permanent interest."[19] He suggested that even the errors will furnish "a handle to argument,"[20] and it is perhaps to those errors that he owes his fame, for they provoke a controversy which outlived their author.

The general argument of the first *Essay* holds for the second, but the effect is quite different. In harmony

[17] Author's Preface to the second edition, p. vi.

[18] *Ibid.* [19] *Ibid.*, p. iv. [20] *Ibid.*, p. vi.

with the changed tone of the second edition the postulates no longer appear as explicit statements, but they are there by implication, merged in the general statement and assumed in the general argument. The statement of the ratios has similarly undergone a change. It now suggests not a form of argument but a problem. Malthus does not pretend that the arithmetic ratio is descriptive of the facts; it probably overstates the possibility of agricultural increase. He keeps it only in order to show a lesser power of increase, for any progression less than the geometrical creates a problem. In point of theory, the chief change in the second edition is the recognition given to moral restraint as one of the checks to population growth. Malthus admits in the Preface that he has "so far differed in principle from the former [version], as to suppose the action of another check to population which does not come under the head either of vice or misery," i.e., moral restraint, by which he meant late marriage and no deviations from virtuous conduct; and in consequence of this change he has "endeavored to soften the harshest conclusion of the first Essay."[21] Malthus had, indeed, dealt at some length with this *new* check in the earlier *Essay*, but only to conclude that the cases in which it could be expected that virtuous conduct would be pursued during the period of deferred marriage were so few as to be negligible in the total result. "Vice," he pointed out, "is a highly probable consequence, and we therefore see it abundantly prevail; but it ought not, perhaps, to be called an absolutely necessary consequence. The ordeal of virtue is to resist all temptation to evil."[22] And again, after a considerable analysis of the operation of the preventive

[21] Author's Preface to second edition, p. vii. [22] First *Essay*, pp. 15–16.

check as it operates by delaying marriage in the various grades of society, he concludes that

> in this country [it] operates, though with varied force, through all the classes of the community. . . . . The effects, indeed, of these restraints upon marriage are but too conspicuous in the consequent vices that are produced in almost every part of the world; vices, that are continually involving both sexes in inextricable unhappiness.[23]

The new classification of checks draws attention to the notion of a flexible standard of living as a check on the redundancy of population, and thereby modifies the general argument. It suggests that the increased subsistence *may* go to the bettering of the condition of those already alive rather than to a proportionate increase in numbers. Instead of picturing a state of predestined suffering, Malthus calls upon people to realize the imminence of the population problem and to practice moral restraint, which in his view meant the postponement of marriage and not the control of the number of children within marriage. The picture on the whole is still one of population inevitably increasing. It is a picture of the masses, not of any particular group, which, as Malthus admits, may restrict their numbers. Among the masses, he maintains, there were enough who would increase their numbers in response to an increase in subsistence to make necessary the operation of the positive checks.

The argument of the first *Essay* was directed against the speculations on human perfectibility. The second *Essay* turns its attention to the condition of the poor and the possibility of relieving their distress. According to the Malthusian analysis of the problem of population, the poor had only themselves to blame for their condition. Malthus went even farther and undertook to prove

[23] *Ibid.*, pp. 69–70.

that relief was futile as a means of helping them. To give additional purchasing power to the poor did not increase the amount of commodities available for their consumption. It only intensified the competition for the existing surplus which resulted in a rise in the prices of necessities and thereby spread the suffering over a wider area. The abolition of public relief and the discouragement of private charity were harsh and stringent methods, but Malthus did not shrink from recommending them. In their place he proposed for the comfort of the destitute the diffusion of knowledge of the principle of population and an insistence upon individual responsibility for want. All should realize the disastrous effects of a redundant population, and those who contributed to this excess should be visited with disgrace. To this end all young persons should be made aware of the population problem and urged to postpone marriage. The Malthusian warning should be written into the marriage ceremony. But these homilies were not all of his program. Children conceived before marriage and illegitimate children should have no claim on the property of their parents and no claim on society. In the lottery of life they had drawn blanks. Malthus was regarded in his lifetime and afterward as both a sound philanthropist and a monster. Certainly his class bias caused him, in spite of a gentle nature, to overlook the practical aspects of poverty. Although the hard parable of Nature's Feast[24] was dropped after the second edition, it

[24] This passage appeared only in the second edition. It was violently attacked, and no doubt had much to do with the opinion which the poor and their sympathizers formed of Malthus.

"A man who is born into a world already possessed, if he cannot get subsistence from his parents on whom he has a just demand, and if the society do not want his labour, has no claim of *right* to the smallest portion of food,

gave the stamp of his thinking regarding the poor. His doctrine was welcome to the rate-payers, but the poor had reason to complain that Malthus did not understand their position. They did not contribute to an increase of population out of respect for maxims of king or church, but because the problem was altogether beyond their control. They had got into a rut from which it would take more than preaching to extricate them.

Malthus had shot his bow in the first and second *Essays*. The subsequent editions[25] did not significantly change the argument or add to the weight of the evidence. In 1824 he contributed an article on "Population" to Macvey Napier's supplement to the *Encyclo-*

---

and, in fact, has no business to be where he is. At Nature's mighty feast there is no vacant cover for him. She tells him to be gone, and will quickly execute her own orders, if he do not work upon the compassion of some of her guests. If these guests get up and make room for him, other intruders immediately appear demanding the same favor. The report of a provision for all that come, fills the hall with numerous claimants. The order and harmony of the feast is disturbed, the plenty that before reigned is changed into scarcity; and the happiness of the guests is destroyed by the spectacle of misery and dependence in every part of the hall, and by the clamorous importunity of those, who are justly enraged at not finding the provision which they had been taught to expect. The guests learn too late their error, in counteracting those strict orders to all intruders, issued by the great mistress of the feast, who, wishing that all her guests should have plenty, and knowing that she could not provide for unlimited numbers, humanely refused to admit fresh comers when her table was already full." (2d ed., pp. 531–32.)

[25] The third edition (1806) contained no substantial changes. The parable of Nature's Feast was left out, and an appendix dealing with the critics added. It had a very successful sale. A fourth edition came out in 1807. It was practically a reprint of the third. A fifth edition, in 1817, contained considerable changes. Malthus dealt at some length with the criticism which Grahame and Weyland had directed against his argument. There are additional chapters dealing with the application of economic principles to the existing English condition. It was a pretentious three-volume work, printed in large type on large pages. The last edition printed during Malthus' lifetime was the sixth (1826).

pædia Britannica. This is of special interest inasmuch as it came toward the end of Malthus' career, when his thinking on the subject had matured. Furthermore, it was anonymous and thus gave him an opportunity to write freed from the constraints of his earlier utterances and the controversies in which they had embroiled him. The principle of population as stated there includes the most relevant and unassailable points of the theory, but it is attacked from a fresh viewpoint and with new order and emphasis. Here is evidence of what Malthus would have chosen to write if he had not previously been writing in print. It may be regarded as Malthus' second thoughts on the subject of population. Another, and his last, statement on population came from his pen in 1830. The publisher, John Murray, persuaded Malthus that he should put out the *Essay* in a condensed form which would make it available to everybody. This appeared as *A Summary View of Population.* The edition was limited and apparently attracted little attention. It is essentially the *Britannica* article worked over with few changes.

In point of influence on contemporary affairs the writings of Malthus are most significant in connection with the Poor Laws. The breakdown of the English Poor Law system was prominent in the background of the population problem of the time. The condition of the poor had, in part, provoked the first *Essay.* The effect of Malthus' writings was to revolutionize public relief in England. Malthus and Bentham together converted Pitt to their point of view and were powerful figures in determining the character of the Poor Law of 1834. Malthus may, indeed, be regarded as the father of the reform of 1834, by the effect of his argument on public

XI

PARADOXES OF POPULATION PROBLEMS[1]

A few years ago, it was not unusual for intelligent and well-informed persons to take the view that there was nothing in the subject of population to discuss. The connotation of the term was limited to a sheer numerical statement of people in certain areas, such as satisfied the census statistician or served the propaganda purposes of chambers of commerce. Since the war, however, there has been a recrudescence of interest in this set of problems, to which the flood of books appearing on the subject and the attention which scientific associations are giving to them bear witness. This interest is comparable only with the interest in population problems which accompanied and followed the Napoleonic wars, and in which Malthus was the central figure. Malthus' famous essay set the stage for the discussion of population problems throughout the nineteenth century, and even in our own day claims a dominant rôle in discussions of population theory. Moreover, from it are derived two great trends of contemporary thought: neo-Malthusianism, or the more modern birth-control movement, directed toward keeping down the number of births; and the eugenics movement, concerned with the quality of the population and depending for its validity upon the facts of heredity. The neo-Malthusians trace their descent through Francis

[1] Compiled by the editor from manuscript notes and lectures of James A. Field.

Place, while the science of eugenics comes directly from Malthus through Darwin and Galton. Through a line of descendants of a different temper many of the proposals of socialism go back through Marx to Malthus. Modern economists, following the Malthusian inspiration of Herbert Spencer, have elaborated Malthus' statement of the relation of numbers to food supply into the idea of the standard of living as an equilibrating factor between the pressure of numbers and the desire for things to consume.

Malthus' writings and the immediate controversy which they evoked were concerned almost exclusively with the numerical aspect of population, and even today the stricter neo-Malthusians refer to the "population problem" in the narrow meaning of heads and acres. It is not surprising that, while the idea of a census was new and its disclosures revolutionary, and when the medieval ideas of class relationships colored social policy, the problem of population should be confined within the limits of a census enumeration. But to speak of the "population problem" in this restricted sense is misleading, and a relic of the times when the subject was narrow and Malthus the center of the field. We are today concerned with population in a broader scope; and for us there is not a "population problem," but rather there are population *problems*, and they underlie every other human problem.

In its ultimate sense the term "population" may be taken to mean the provision and stock of men, and hence the material and stuff out of which human affairs come and by reason of which problems of numbers and quality of this human stuff exist. It is, perhaps, odd that the term "population," unlike the closely related

terms "immigration," "colonization," "occupation," "depopulation," does not usually suggest the process of peopling (populating), the setting-up of a people in a certain part of the world. But such a dynamic interpretation is necessary to express the sense of process going on, growth, significant action, together with the control of this process, which, combined with the idea of numbers as a census return, give us the composite idea of population as a *human group in the course of change.* Population thus comes to involve all the activities—economic, cultural, and social—to which men attach value, and the study of population must be expanded to include a series of problems of the broadest scope. In fact, it is so that men have considered them, for the definition and content of population problems has changed from time to time in response to changing ideals and new modes of social and economic organization. The content of population problems at any moment in history is determined by the desires and ideals which men hold to be the principal matters of human concern, for since all human interests relate to these problems, they are influenced by the whole philosophy and mode of life of the community. They are likely to change rapidly, and often in a conflicting manner. In consequence the field of population problems has always been one of heated controversy. At any given historical period, certain population problems are considered as all-important and deserving of exclusive attention. Writers of a following period characteristically take it upon themselves to show how mistaken their predecessors were in defining the important population problems; and they in their turn undertake to demonstrate what, in truth, are the real issues. In the Malthusian era it was

the vogue to refute or defend what had already been said. More recently, under the influence of another school of thought, scholars have addressed themselves to the discovery of historial relativities. Why, for instance, military people have one view about colonization and pacific people another. These modern writers are inclined to view population problems as a historical procession and to seek to evaluate and unify theories rather than to spend their energies in mere refutation. We appear now to be in a stage in which the biologist and the statistician are supplanting the relativities of the sociological historian with statements of Nature's inflexible laws of population growth. The want of detachment, and the shifting emphasis, so characteristic of the literature of the field, makes the study of the history of population doctrine indispensable to the student who would grasp the nature of the problem in its larger prospectives.

The Greeks appear to have been the first to give a formal abstract statement to the facts of population. But previous to the apprehension of it in its intellectualized form, primitive populations were necessarily deeply concerned with the phases of the population problem immediately affecting them—marriage, birth, morality of sex relations, death—nor could they have been unaware of the conflict of reproduction with maintenance and convenience. Among early tribes the feeling of concern for the processes of life in the family and the group, and the sense of communal interests involved, are reflected in taboos, customs, and sanctions long before nationalistic and international policies existed; but there is only a vague appreciation in these simpler cul-

tures of the organized statements or scientific conceptions of population problems, such as have been worked out in more sophisticated societies.

As conscious human activities, aims, and policies are elaborated, a complicated economic system comes into existence, designed to further man's interests. But the creation and perfecting of an increasingly complex economic system, alas, has not solved the dilemma inherent in the insistence of the reproductive impulses for realization and the difficulty of supporting life. Increased production has created increased desire to consume, and the conventional institutions which it sets up make the satisfaction of these wants which enrich and continue the individual life imperative. The reproductive impulses run counter to these purposes imposed by the economic system and constantly threaten destruction of the standard of living which it promises. There is a perverse reaction of the conventionalized economic standards. The economic process, once seemingly the minister to simple increase and sustenance, sets standards adverse to reproduction. The system will not let men do certain things that we are accustomed to think it was at first devised to assist him to do. Thus we find that the very classes which it enables to attain economic success and thereby places in the best position to provide for children have fewer than the very poor. Women whose physical attractiveness makes them sought after as wives are unwilling to risk their beauty, and therewith the affection of their husbands, to the demands of motherhood. But is not the paradox a forced one, resting upon the false assumption that there is a teleological purpose in the evolution of human institutions, that the

economic system has been devised to insure the perpetuation of the race? Are there not quite as good grounds for supposing that there has been no consistent purpose or intelligent plan which has directed the evolution of economic institutions by orderly steps toward a comprehensive and unchanging goal? At any rate, the present economic system which has grown up by conscious foresight or fortuitous circumstance is inherently unfitted to deal with the ancient dilemma of individuation versus genesis. An individualistic, competitive, specialized economic system sets the goals of human activity in proximate rather than ultimate terms, in terms of the individual rather than the group, of the present rather than the future. To succeed, according to its standards, men must play for immediate objectives, and most men dare not risk failure, as convention defines it. The economic system, of ordered means to maintain existence, breaks down by its own weight the physical basis of its fabric.

Not only has the economic system become the dictator of the ends of life, but human impulses, not primarily economic, have been framed into institutions with power to define purposes and set goals. Modern population problems are characterized by the study of man as a psychological being living under institutional conditions in which the simple act of reproducing the race is hemmed about with prescribed observances at every point. These institutions aid man to maintain his physiological being, but they also contain elements which work against such a purpose. Man has not greatly changed physiologically, but the institutional life of society has become increasingly intricate and complex. Romance, marriage, divorce, the economics of support,

questions of prestige, "higher wants," taste, position, religion and the mystical sanction, have all been institutionalized and stand in the way of the original impulse toward mating. Along with the desire to maintain the race physiologically, there is the desire to bring up children into the fullest culture which the age affords. Institutionalized man cannot be content to perpetuate himself as a simple biological being; he must reproduce himself in the enlarged and complicated significance of self, the highly individualized member of a highly organized society. Perhaps it means that he will have to make the choice between being the flower of his civilization and reproducing the race. But even here the choice is not clear, for it may be, as some writers suggest, that it is only by a dominance of numbers that the cultural future of the race can be assured.

The menace of the dangerous indirection of exchange co-operation which expresses itself in a declining birth-rate, has been mistakenly identified with "race suicide." Properly speaking, race suicide is the failure of the best parental stuff to maintain itself, either by absolute non-propagation or by relatively slight increase; but according to a prevalent misconception it is defined as the non-reproduction of "successful" types. In the first sense, the fact is of uncertain validity but of obvious significance; in the second, the fact is obvious but the significance is uncertain. Logically, the much lamented decline in the birth-rate is a development of Malthus' preventive check, operating, not as he approved through "moral restraint," but rather through the neo-Malthusian interpretation of prudential restraint. The motives which Malthus admonished the working-classes to emulate have been augmented in the

in the case of death we have generally abandoned negative policies which use this factor to regulate population growth, the attention of thinkers has turned to birth control rather than to death control when framing population policies, whether the object be that of restricting or limiting or encouraging numbers or that of dealing with the quality of the population. The three most striking proposals of the last one hundred years, those of Malthus, of the neo-Malthusians, and of the eugenists, have sought to accomplish their several and even conflicting ends through a regulation of births.

Nature and the human will set the limits within which the manipulation of this factor must be confined, but they are relatively wide. It is conceivable that by a rigorous practice of contraception, or by the exercise of perfect self-restraint, the birth-rate might be reduced to zero. Physiologically the upper limit is set by the frequency with which children can be produced by a given woman. There is no upper limit for the male except that set by custom and the institutional restrictions of his civilization. The maximum birth-rate which it is possible to attain is a function of the age and sex distribution of the population. A community originally composed only of persons of child-bearing age could have a very high birth-rate, but it would be driven lower and lower as year by year a number of women become superannuated and the proportion of children in the population increased. The upper limit of the birth-rate is further dependent upon the economic limitations to rearing children. It has been estimated that 60 to 65 per 1,000 is the highest annual rate of reproduction which could be maintained over a long period of time. Actual, recorded rates do not reach this maximum, al-

of childbirth, though probably not an important factor with women of spirit, operates in some instances. Certainly the conditions of civilized life have contributed to increase the hardships of childbirth, more especially among the highly organized mothers of the intellectual classes, although recent developments in gynecology tend to relieve this difficulty. The desire of women to retain the physical charm of youth is another negative motive, the force of which is summed up in the unflattering implication of the term "dowager."

But the motives which lead to family limitation are not all self-regarding. There are altruistic motives which operate with an equally powerful force. Men and women, impelled by the call to social service or religious devotion, may find in celibacy the best mode of pursuing their ideals of an untrammeled and disinterested life. With no less altruistic purpose parents may limit the size of the family in the interests of present or prospective children in order that all who are born may be suitably provided for in heritage, training, education, and economic support. The problem here is a baffling one. Most parents feel morally responsible for providing for their children advantages at least equal to those which they themselves enjoy, and many, especially in a dynamic society, are not content unless they can place their children in a superior position. But what should be the standard by which this superiority is measured? Should the criterion be that of "advantages," "privileges," or "excellences"? Is it really a concern for others or only a concealed selfishness to deny existence to a child who might live well, but not conspicuously well? Is it a wise altrusim which prevents the birth of children through raising the standard of care for them to a level

conspicuously higher than that required for average performance in the community? Perhaps the choice appears most clearly to parents in regard to the inheritance of property. People may marry and accept a standard of living for themselves which they may not wish to impose upon other individuals. Or, they may adjust the size of the family to meet the obligations which convention, supported by law, dictates. The custom in France of dividing the patrimony equally among the children has undoubtedly been a powerful motive in reducing the birth-rate in that country, while in England the rule of primogeniture among the upper classes has had quite an opposite effect. In other cases altruistic motives may be the obverse side of what are generally regarded as self-regarding motives, such as a husband's desire to spare his wife the suffering and cares inseparable from the functions of motherhood, or the desire of a wife to aid her husband in his career.

Over against these motives opposed to parenthood may be set the ideals which favor increase. Briefly summarized, they include the desire for "physical immortality" in one's offspring, the sense of obligation, mystical or rationalistic, toward the future; reverence for the parental instinct, and the exaltation of right parenthood, especially of motherhood. In all these self-regarding and other-regarding motives are inextricably intermixed. Considerations of the economic and social advantages to be derived from children were once powerful motives in encouraging large families. Of patriarchal society it was said: "Happy is he who has his quiver full of them"; in agricultural communities, especially new ones, the farmer literally produces his own farm hands; and in industrial districts factory legislation

and child labor laws are attacked because they will discourage child-bearing. In these more direct types of economic organization the birth of children is both a result of an economic situation and the necessity and cause of economic activity. But in a situation in which the practice of birth control has become general and the obligations of parents are increased by social regulations which at the same time lengthen the period of dependency, economic motives to child-bearing are rapidly disappearing. Today it may be said that children are the deliberate products of non-economic inducements, and not the by-products of economic ones. But although the economic motive has been dissipated, a powerful motive to parenthood still inheres in the genuine interest which mothers and fathers find in watching the development of their children. To many persons, among whom the fully sophisticated are by no means lacking, the interest of watching a young life unfold is, and will probably always remain, one of the most alluring adventures which life has to offer.

Alarmists are wont to cite the aversion to child-bearing which characterized the latter days of Rome as a case parallel to our own, and to picture the stock which has evolved European culture as exhausted by the effort of its evolution. But even if we accept the historical analogy as prophetic of our own fate, the creation of a civilization as an end in itself, the attainment of its advantages, though accompanied by the extinction of its most highly developed types, may be justified according to one set of values. As a matter of fact, the transmission of civilization seems not to be dependent on the negotiability of the germ plasm. The ancient Greeks are extinct, but Greek culture has been pre-

served. Hellenism is the European legacy of Greek and Roman achievements coming through Rome. In Japan we have an example of the bodily appropriation of Western civilization, for which the people has not had to exhaust itself; and it may be her mission to develop it along new channels. Or again, if the test of well-being be conceived in terms of an accelerating process as distinguished from the attainment of any particular level, the decline of a people which has reached its zenith may be contemplated without alarm and without regret.

But although the pageant of history is impressive, we are not compelled by its logic to regard our own age as quite closed. From a less philosophical and more practical approach, the point of attack would seem to lie, not in lamenting the invention and general availability of contraceptives, but in a thoughtful scrutiny of the economic ideals developed from our system of exchange. If economic ideals become more direct, and the ultimate economic purpose of enabling man to enjoy a better existence becomes more deeply appreciated (a contingency which is admittedly problematical), the intermediate purposes which threaten certain stocks with extinction may be offset by those purposes which favor increase.

Questions of quality in the population as related to individual differences and not to the general virtues of the group have only lately been recognized. Eugenic comparisons between nations are an old story, but they are new as applied within the nation. Wherever group consciousness is developed, we find people stressing the fact of their own superiority and, when necessary, pushing their survival at the expense of others. Indeed, such

an assumption has been necessary for survival. So far as these group differences are concerned, there appear to be insuperable difficulties to defining a policy for securing the survival of the really superior. One might conceivably secure international agreements as to the unfit traits which should be eliminated from among humankind; but it would be quite impossible to secure agreement as to which groups should survive and which should yield place, inasmuch as we lack both the knowledge upon which such a decision must be based and perhaps also the detachment essential to a scientific consideration of the subject, and even if these requisites were supplied, it is inconceivable in the world as we know it that a policy unfavorable to the life of the group could be put into operation against any except the most defenseless nations or races. With all due respect to democracy, the issue cannot be decided by vote of the majority.

The modern emphasis upon the individual differences of quality of population dates from about the middle of the nineteenth century, when Francis Galton published his first studies dealing with the subject. Following the Darwinian inspiration of Galton, leaders in the quality movement have been inclined to give exclusive consideration to the biological aspects of the problem and to stress the dysgenic tendencies of civilized societies, which, they hold, having perverted the processes of evolution by natural selection, must find a way of making man "fit" by conscious selection. The purpose which actuates eugenic effort has been severally defined in the humanitarian terms of eliminating poverty and of relieving human suffering, or in the Nietzschean terms of producing a race of supermen, according as the taste

and temper of the particular eugenist has dictated. From the economic point of view, the eugenist views man as producer, only precariously self-supporting, and hence a potential dependent of society, whom society wishes to make an asset and not a liability. A person or community moved by this aspect of the population problem might subsidize the eugenic movement as a sound economic investment. Such a view supports a negative program of eugenic reform. But there is a deeper appeal in the positive eugenic ideal of a competent and goodly race of men. It ministers to man's craving for emancipation from the limitations of the flesh, which manifests itself in the closely knit and deep desires for individual immortality, perpetuity through descendants, and the perfection of mankind through evolution. To the thwarted, limited human being, yearning for emancipation and fulfilment, it offers the prospect of a glorious immortality through the race. It is a perfectibility doctrine in the guise of the nineteenth-century conception of evolution—a manifestation of Tennyson's wish-teleology that trusts

> . . . . that somehow good
> Will be the final goal of ill,

that rests its faith on a cosmic final cause "to which the whole creation moves."

The science of eugenics rests on the characteristic power of living things to reproduce their kind, and hence what we can do depends in part on the nature of what we have to do with. As to the nature and mechanism of human heredity, we can be sure of little beyond the simplest facts of physical inheritance which the biologists have taught us. In the realm of the inheritance

of mental and moral traits and all those *nuances* of character which we care most about we are embarrassingly ignorant, nor is it our purpose here to examine what data exists. Something, however, may be ventured by the economist regarding the old controversy on the relative force of environment and heredity in determining the human individual. The distinction is one that is likely to be mistakenly overdrawn. Without trespassing upon the biologists' ground we may point out that environment conditions heredity, inasmuch as heredity is manifested only under environmental conditions which permit inborn traits to develop. Tradition, education, class, caste—all these institutional factors exert a selective, or directive, influence in human evolution. The "aristocratic hand," the shape of the head, stature, the quality of the voice, the color of the eyes, may play a determining part in matings. Heredity, on the other hand, conditions environment by shaping the type of human activity in which people engage. Nature and nurture are not separate entities, which can be readily distinguished, but mutually conditioning factors which are continually making and remaking men and societies. Even if acquired characters are not directly inherited, they may influence selection and thus control heredity, and it may be that eventually they bring about their own specific reproduction.

Discussions of eugenic fitness must always be carried on in an atmosphere of futility, so long as we do not know the secret of hereditary selection. It is perhaps an unconquerable optimism in man which leads him in the face of this ignorance to speculate upon standards of fitness for the human race. However that may be, the contradictions and paradoxes of the sub-

ject never fail to interest even the eugenically skeptical. It is customary to distinguish between positive and negative eugenics, meaning, by the former, stimulating the increase of the better stocks, and, by the latter, checking the increase of worse types; but the distinction is mainly one of practicability. They are in essence two sides of the same argument, differently stated and calling upon different sets of facts for support or refutation. Both programs work characteristically at the outer fringes of the population, with the five per cent at the bottom and the one or two per cent of highly qualified individuals at the top. At present, at least, the great mass at the middle, which comprises something like ninety per cent of the population, remains outside the direct view of the eugenic reformer. The negative method is indirect, but it is simpler and more clearly indicated than the positive, inasmuch as it may be defined without involving one in the whole question of the ultimate ideal of the human type. Because the chances of making mistakes are less than in the former case, it is a better field for experiment. It is obviously easier to prevent a bad marriage than to force a good one. The most definite and promising application would seem to lie in eliminating those traits which appear to be nearly or quite unit-characters,[2] and which would be disadvantageous under any circumstances which might reasonably arise; and in this field negative eugenics has very substantial support.

To some extent the ease of establishing a negative eugenic policy is illusory. To be sure, in respect of the bad end of the human race it is possible to go farther before meeting opposition than where one attempts to

[2] *See* above, p. 173.

pick out the best, but neither procedure is free from the taint of invidious comparisons. The problem of negative eugenics has the great advantage of being concerned with a minority of the population. By implication it glorifies the majority. We are all willing to admit that we are better than the poor wretches we desire to see cut off, but it is not so easy for us to agree upon certain persons who are superior to ourselves. We are likely to favor types which have the virtues of our own class. The case of the farmer breeding hogs is much simpler. After all, he is not breeding hogs for their sake, but for his own. He stands outside and detached from hogdom in a way that the eugenist never can stand outside the realm of human affairs. But this is a difficulty inherent in all human arrangements. It serves well if it induces caution, but to accept it as a rule of conduct is to nullify all action. Nor is it the only difficulty in a negative eugenics program which must be dealt with. What we are concerned with are not only the present symptoms of defect which individuals manifest but the chances of producing a good progeny, and defects in the individual do not necessarily correspond to gaps in the capacity to transmit good qualities to the offspring. Furthermore, certain dysgenic traits may be correlated with other characters of a highly desirable nature. Neither can a sound policy of negative eugenic reform be framed independently of a positive eugenic ideal, for, if one sets out to eliminate certain types before a standard of what is desirable has been agreed upon, it is quite possible that one may discover that qualities have been thrown out which later have been declared to be desirable. Finally, there is the difficulty of time. Population programs work themselves out slowly, and many gener-

ations must pass before results can be achieved. In a shifting, changing world two or three generations at the most are all that we can hope to influence. Hence in their practical application population policies must always be a little out-of-date, and the results which were sought after by one generation are likely to be unappreciated by the generation which enjoys them. Thus, for the present at least, the elimination of the unfit must be judged only on grounds of expediency and practicability.

The implications and contradictions involved in framing a positive eugenic ideal are inexhaustible, and their elaboration a task that knows no end. They have been subtly analyzed in Essay IX and it suffices here to raise some of the chief issues.

Is the objective eugenic reform to be conceived in terms of the welfare of the individual or of society? of the nation or of the whole race? Is welfare an absolute quantity or is it dependent upon a degree of efficiency and an amount of possessions greater than those of others, i.e., on human inequality?

Are eugenists, inasmuch as they are reformers, precluded from adopting a behavioristic approach to their problems? If this is precluded, upon what basis can they establish their definition of fitness?

Is there enough that is permanent and similar in the changing ideals of human beings to formulate some acceptable plan which follows out a trend in biological and cultural development?

Can we lay down any picture of an ultimate goal which is comparable with the terms in which we state our immediate good, or are the two problems of different orders of experience, the one emotional and the other rational?

Can we conceivably steer and steady the course of human evolution even though we ourselves are borne along with the stream; i.e., can we by observation and generalization see how to prevent momentary and aberrant selective tendencies from throwing human evolution off what seems to be its more characteristic course?

Is the inconclusiveness of the formulation of the eugenic problem any different from the formulation of most human problems for which we set up rules of conduct?

Eugenic ideals are formulated in terms of what we lack and what we are. Does such a statement give us at least a next-step standard for eugenic effort?

Eugenics speaks the language of ultimate goals; life in economic society is living in terms of proximate goals, and its rewards are in terms of immediate, individual advantage. Is it possible, or logical, to set up ultimate goals which are not related to the prizes for which men strive? What is wrong with an ideal in which every one pursues his immediate advantage?

If we determine eugenic excellence without reference to the current valuation process, what prospect is there that these qualities will be rewarded? Will not an eugenic ideal, based upon present economically valued qualities, eventually bring about its own standard of values?

Does eugenics offer a method by which poverty may be eliminated? It is sometimes argued that we are already in the way of eliminating misery and physical hardship and as we approach this goal we will outgrow the current defensive philosophy and modes of thought and turn to constructive activities and philosophy. But even though we get rid of particular and specific mani-

festations of disagreement with the environment, will not the comparative degrees of welfare which men enjoy persist, and invidious comparisons among individuals make those who are less well-off *feel* poor and miserable?

Is the eugenic ideal a class ideal? (See Galton's caste appeal.) Are the things which are demanded, the things on which we may build a future economic ideal? Galton would have selected expensive qualities for survival. Are these antagonistic to many qualities which individuals must have to perpetuate themselves and their kind?

If civilization has a race-destroying quality, will a culture built up from stocks which are left be as brilliant as the first?

If "success" is fundamentally inconsistent with perpetuation of the stock, however the function of parenthood be limited or revolutionized, is not our standard of success an impossible standard for permanency? Can any stock be considered eugenically fit which does not perpetuate itself?

Are the ideal parental type and the individual ideal in other respects the same? Is the prevailing individual ideal harmonious with the interests of parenthood? Can we formulate an ideal of a parent as the source of heredity apart from an individual ideal? If specialization for parenthood is impracticable, how are individual standards to be reconciled with parental standards?

If standards of fitness are relative and subject to change, what characters should be selected for survival; highly specialized traits, or a general balance of powers, e.g., versatility, adaptability, energy, sensitiveness, responsive nerve control and co-ordination? Note that if the eugenic ideal is conceived in terms of the social good,

even for servants of society a plastic type is desirable, or there is likely to be a lack of aptitude for the new services needed. But if we breed for adaptability and versatility, do we achieve anything that would not have happened anyway?

Such is the nature of the eugenist's problem. The eugenic goal seems to center in the perfection of what we feel to be lacking in us, as heaven is heaven because of the agreeable absence of certain unpleasant things as well as the presence of certain other pleasant things. But at the same time it assumes a sort of normal human constitution as the basis of the traits desired—in fact, rather presumptuously created in our own image; it expresses both what we would like to be in the kind of world in which we live and what we would like to be in an ideal world. It is natural that we should be most conscious of defect in relation to our most important and engrossing activities, and it is also a trait of human nature to desire more worthy activities. The eugenist cannot escape the philosopher's problem of trying to reconcile the real and the ideal.

In considering the case of the relation of numbers to quality, some protagonists of quality go so far as to contend that numbers are subsidiary to quality; in other words, the desirable number is that which makes it possible to realize desirable results in terms of quality. Negatively, a strong case can be made for the position; but affirmatively it cannot be carried too far. The superiority of numbers may be of prime importance in struggles between groups in which quality, if it is to be secured and perpetuated, must be protected and backed up by sufficient numbers. Falling back on a biological analogy, we note that very select and highly developed

animals may be overcome by a stronger and more numerous group; or, the numerically small but superior stock is diluted by filtration of another strain. Unless the group can be protected in the process of evolution, it may have to sacrifice quality to numbers. Furthermore, standards of quality are ephemeral, and the sacrifice of numbers in accordance with them may prove disastrous. Eight or ten generations hence, the descendants of a eugenically conscientious population may rise up and bewail the policy of their ancestors, and hence a society does well to be cautious not to neglect to provide sufficient numbers in a search for the highest quality. Numbers once sacrificed for quality cannot be recovered; qualities once relinquished cannot be regained. Thus, we may sacrifice the future which we cannot see very clearly by cutting off numbers, and with them qualities. The safest ground to take in this problem of the relation of numbers and quality would appear to be that numbers can be judged only by their ultimate effects upon ultimate standards of quality. But as we do not know the ultimate qualities to be desired, this nullifies the practical significance of the concept. When we can define quality, we can perhaps answer the question: Does quality prescribe a limitation of numbers?

Resolved into their simplest statement, all population problems may be stated in terms of birth and death. These are the vital factors of population which are anterior to any conscious ideals or deliberate policy. All changes in population can be explained in terms of these two factors, and different combinations of these factors determine the quality and the numerical character of the population. But if we are dealing with some limited

phase of the population, such as the national group, we must add two other factors, emigration and immigration, as among the great agencies by which populations are changed or modified.

Matter-of-fact methods of invoking death, such as infanticide, capital punishment, and war, are, of course, familiar customs in primitive cultures, as they are today actually prevalent practices; but it is exceptional within the modern period to find policies of stimulating death as part of the avowed population programs of civilized peoples. In so far as we today are seriously and consciously concerned with the death factor in population, we are influenced by humanitarian sentiments which encourage the reduction rather than the increase of deaths. Hence, consciously regulatory measures are characteristically directed toward the control of births rather than toward the control of deaths. Up to the end of the eighteenth or the beginning of the nineteenth century death was regarded as a relatively uncontrollable factor. Death is still a certain and inevitable fact, but the postponement of death has been accomplished to a significant extent during the past century. The nineteenth century is phenomenal as the century of great population growth, and it is now generally conceded that the increase in numbers was due more to the decrease in the death-rate than to an increase in the birth-rate. Certainly in England after the late seventies the falling off in the death-rate proceeded concurrently with a declining birth-rate, the action of the former tending to obscure the latter by offsetting its consequences. It is to the pioneers in the public health movement, to Pasteur, Lister, and the researches which they inspired that we owe the general progress in an understanding

of the pathogenic organisms and the consequent development of sanitation which has, in a limited sense, made us master over death. In the seventeenth and eighteenth centuries a newborn child in any of the more progressive countries of Western Europe had an even chance of surviving the age of two or three years. The expectation of life for the infant now runs into the middle fifties. The most significant gain has been achieved in cutting down the infant death-rate. The age of the very old has not been greatly increased; rather, everyone has been given a better chance to live his life through. The result is a significant change in the numbers and makeup of the population.

Various countries differ greatly in the extent to which they have been able to take advantage of this knowledge of prolonging life. The costliness of maintaining a population by a high birth-rate combined with a high death-rate is best illustrated by a comparison of birth and death in various countries.

In each of the pairs of countries cited the net result in excess of births over deaths is almost identical, yet the wastage in human life is very different. Because of a high death-rate Mexico must bear annually 129 more children per 10,000 of population than France to sustain a stationary population. Hungary annually produces 104 children more per 10,000 of population than England to attain the same result in terms of net increase, Roumania 121 more than Denmark, and Russia over 200 more than New Zealand. A similar difference in wastage may be observed between economic groups within a country. It is quite impossible to calculate the psychological cost attendant upon a high birth-rate and a high death-rate, but we can arrive at some idea of the

material cost if we think of it in terms of opportunity cost, that is, the loss involved in diverting into the activities of bearing and nurturing children time and energy which might have been devoted to other productive pursuits. Even this is not a simple calculation, for the time and resources devoted to the care of children is not the same for all countries nor for all groups within

TABLE I

ANNUAL RATES OF BIRTHS AND DEATHS AND EXCESS OF BIRTHS PER 10,000 POPULATION, IN SELECTED COUNTRIES, 1906-1910

Country	Living Births	Deaths*	Excess of Births
Mexico	328	328	0
France	199	192	7
Hungary	367	250	117
England	263	147	116
Roumania	403	259	144
Denmark	282	137	145
European Russia†	477	310	167
New Zealand	271	98	173

* Still births excluded. † 1901–5.

a country. The cost of rearing children in Mexico, for example, differs from the cost in the United States; and the wastage due to death differs similarly.

From the economic point of view the age of death presents peculiar significance. There is a variable measure of dependence in relation to age. Childhood and early youth are periods of actual economic loss, offset only by a potential economic gain; after a time, the individual, if he survives, becomes an active producer capable of carrying his own load and of contributing an

increasing surplus in aid of the dependent members of the community; with advancing years his productive capacity gradually diminishes; and in old age he again becomes a consumer, living upon the output of others. The concept of the life-cycle in terms of a balance of consumption and production is most familiar as applied to those forms of life which we characteristically judge from the economic point of view; for example, the farm horse, or the milch cow. It was a concept not overlooked in the economics of slave societies.

Economically the best distribution of deaths would be a concentration at infancy of all deaths which occur before the productive age is reached, and again a concentration at the age-period when the productive stage comes to a close and the individual costs more than he adds to the resources of the community. In reality the death-rate is high in infancy, declines to a minimum in the years of later childhood and the early teens, remains fairly low in the twenties and thirties, after which it increases with advancing years. If a campaign to modify mortality were governed primarily by economic considerations, every effort should be directed to lessening the death-rate among older children, for with respect to those who die during these years society is in the position of having made an expensive investment on which it gets no return. In contrast to the demands of economic expediency, it is interesting to note that the most conspicuous efforts of the modern humanitarian, movement have been directed to preserving the lives of the very young and the very old.

Less familiar than the economic aspects of the death-rate, but equally significant, are the biological consequences of the death factor as it influences the makeup

and rate of increase of the population. From the aspect of maintaining numbers the ages at which death is concentrated are of the greatest importance. To state the extreme case: If everyone were to die before the age of reproductive maturity, the race would quickly vanish; the individuals who survive infancy but die at the age of twelve or thirteen years similarly accomplish nothing, although there are intangible values in having the relation of parenthood continue for twelve or thirteen years instead of for two or three years. Biologically, the heavy mortality in early years is very costly, unless we look at a high infant death-rate as insurance for survival in the later years. Once the reproductive age is attained, there is provision for the physical creation of a new generation, and this in many forms of life completes the useful function of the elder generation. But human parents cannot be so summarily dispensed with immediately their children reach the age of fifteen. In a simple society it is possible that the race would be maintained if a generation died out as soon as it had produced grandchildren, but reproduction in civilized society has a larger and more exacting meaning. Under modern conditions of life, with late marriage and slow economic maturity, the older generation is indispensable up to the point where the new generation arrives at complete adulthood, which is, roughly, between the ages of thirty-five and forty years. Only when the new generation is ready to take over all the functions of mature life can it be said that the process of reproduction is consummated.

Birth, as well as death, has within recent years become relatively amenable to human control; but, while

in the case of death we have generally abandoned negative policies which use this factor to regulate population growth, the attention of thinkers has turned to birth control rather than to death control when framing population policies, whether the object be that of restricting or limiting or encouraging numbers or that of dealing with the quality of the population. The three most striking proposals of the last one hundred years, those of Malthus, of the neo-Malthusians, and of the eugenists, have sought to accomplish their several and even conflicting ends through a regulation of births.

Nature and the human will set the limits within which the manipulation of this factor must be confined, but they are relatively wide. It is conceivable that by a rigorous practice of contraception, or by the exercise of perfect self-restraint, the birth-rate might be reduced to zero. Physiologically the upper limit is set by the frequency with which children can be produced by a given woman. There is no upper limit for the male except that set by custom and the institutional restrictions of his civilization. The maximum birth-rate which it is possible to attain is a function of the age and sex distribution of the population. A community originally composed only of persons of child-bearing age could have a very high birth-rate, but it would be driven lower and lower as year by year a number of women become superannuated and the proportion of children in the population increased. The upper limit of the birth-rate is further dependent upon the economic limitations to rearing children. It has been estimated that 60 to 65 per 1,000 is the highest annual rate of reproduction which could be maintained over a long period of time. Actual, recorded rates do not reach this maximum, al-

though a rate of 50 has been reached. It is between these limits of zero and 50 per 1,000 that it lies within our power to control births.

Although these are the theoretical limits within which we can affect the birth-rate, the actual control exercised depends upon the extent to which reproduction is amenable to reason and to what extent it is instinctive, that is, to what extent we depend upon an instinctive policy to control the rate of births. Can there be, in point of fact, instinctive reproduction?

If we think of reproduction in the biological sense, we are likely to limit the idea to the processes which are completed at birth. Reproduction as a fact of civilized society is, however, a much more complicated process than mere creation. It means bringing the new individual through all the steps of development to a state of independence and potential reproduction, when as an independent personality he is capable of carrying on the culture and civilization of his forebears, and of reproducing, in this broad sense, the future generation. To what extent is reproduction so defined an instinctive and to what extent a rational process? How far can instinct be relied upon to control the rate of births?

Sex instinct alone does not carry us far in the succession of events necessary for reproduction: it is only one link in the chain of a comprehensive reproductive complex which unites sex impulse, procreation, nursing, rearing, educating, in an indivisible sequence; and it is doubtful if there is anything like an instinct which makes these successive steps inseparable. There seem rather to be two elements, sex impulse and the parental instinct, or better, the parental bent, which are quite different and even antagonistic tendencies. The sex in-

stinct is usually considered to be self-assertive, selfish, aggressive; the parental instinct, if we may use such a term, finds its expression in activities which are self-denying, altruistic, and primarily concerned with the thought of others. Traditionally, the antagonism expresses itself in sex vice, which is essentially a means of gratifying the sexual desire without involving parenthood. In recent times, birth-control offers a more acceptable way of achieving the same end.

We are accustomed to think that among unsophisticated people there is no necessity to appeal to the sense of group responsibility to insure the continuity of the population, for the sex instinct virtually suffices for reproduction, and the other instincts necessary to the rearing of the young are invoked in or by the train of physiological consequences. It is, therefore, natural to think of these instincts as a unit operating in logical and inevitable sequence. But in a society in which the practice of contraception is general, there comes a splitting up of the process of reproduction into its constituent parts, and the first link in the chain is rendered relatively independent of the others. So long as the chain is unbroken, the strongest motive gives the measure of the general motive; broken, the sum of all the links must seem worth while if the chain is not to be cut after the first link. If it is true, as is commonly assumed, that the sex motive is the mainspring of reproduction, modern practices of contraception may have shifted the emphasis so that the strongest impulse is no longer the determinant of reproduction; other and weaker impulses come in to determine whether the process shall be undertaken or not. If, however, people find that the most interesting thing in life is watching and nurturing

a developing individual, then the chain will not be broken early. The strength of the appeal to these later responses, which for want of a better term may be called the "parental bent," appear to differ from time to time in the history of the individual. Mother-love may be lacking until evoked by the appearance of the child, and it is a truism that a man cannot judge how he will feel toward his own children by the way that he feels toward other people's children. This discounted appeal of the later stages of the process may so weaken the motives making for reproduction as to prevent the individual from carrying the process beyond the first step.

This failure of the imagination is not alone in conspiring to break the chain which connects sex impulses and parenthood. Modern institutions and usages, by prescribing the kind of life which parents think worth while for their children on the one hand, and, on the other, by giving, as they do, greater choice to persons in determining how they shall live their own lives, tend also to break the chain of instinctive action. In the past, institutions have never more than partially succeeded in suppressing sex instinct on the basis of reason and expediency, but today the knowledge of birth control gives the opportunity to set sex apart, and so quells the opposition between sex life and economic support. To use a military figure, by dividing the opposition it has been conquered.

This new power over nature has already profoundly influenced the institutions of marriage and the family. Economic considerations once played a major rôle in delaying marriages, but had little influence in determining the number of births once the step had been taken. Today economic considerations relating to the rear-

ing of children need not hinder marriage, but they operate powerfully in determining the number of children for whom the parents will undertake responsibility. Birth control may indeed prove to be the most important discovery of the nineteenth century, for it permits the whole issue of whether or not individuals are to be born to be settled relatively easily, and furthermore, when they shall be born, how many, and to whom. The possibilities are indeed stupendous, but we do well to reflect that the philosophical wisdom and the social mechanisms for a rational population policy which will incorporate this power are not yet our possessions. There are dangers in this new freedom; and where restriction of population is most obviously needed, among the subnormal and antisocial types, the new methods are least prevalent.

The birth and death factors tell the whole population story as regards the whole world or any isolated region; but they do not tell the whole story of population as regards a given country, city, or district. The movements of people from one place to another are of the greatest immediate concern, for they have far-reaching and often incalculable effects on the makeup of the population.

Migration has been commonly looked upon as an overflowing process, analogous to the swarming of bees when they organize and send out their surplus numbers. Abraham and Lot may have separated for any of a number of reasons, but the conversation between the two as they surveyed the plain of the Jordan, whether a true story or only an interpretation given by a later chronicler, indicates that at an early time this idea of over-

crowding as the cause of migration was already plausible. Colonial policies of the great nations in recent years; for example, Japan, Great Britain, and imperial Germany, have been conceived in terms of overpopulation. Within the broad borders of the United States there has recently been strife among the herdsmen on the western ranges, and a search for new lands by those who were "crowded" out.

This doctrine of migration as an overflow has recently been challenged by Professor Carr-Saunders.[3] Overflow, he points out, implies a previous underpopulation and a sudden increase which results in overpopulation. Underpopulation, however, does not normally exist, except in temporary situations; and furthermore, there is the fact that peoples generally recognized as overpopulous are, on the whole, the ones who do not move out. A considerable degree of social organization and political and military power are required if people are to get out of one country and into another, and chronically overpopulated nations are characteristically without ambition; they are the very ones who lack the organization and personal initiative to move, while migrant peoples are typically energetic people, dominated by the idea of their own advantage. The real mainspring must be sought in the operation of a political or moral ideal. Migration is a matter of morale! "It is undertaken in response to an idea."[4] But while the crude simplicity of the overflow theorists makes it easy for their critics to carry a denial of their doctrine too far, it is merely contentious to deny that the pressure

[3] A. M. Carr-Saunders, *The Population Problem: A Study in Human Evolution* (1922), pp. 297–304.

[4] *Ibid.*, p. 300.

of population plays an important rôle in human migration. Perhaps the key to an understanding of the relation of population pressure to migration is to be found in a change in economic standards which makes the pressure *felt* in a given community. Overpopulation is relative to economic technique and social organization, and to a certain extent it is subjective. A sudden change in ideas, such as may be brought about by a great invention or a revision of the accepted ideas of what is worth while may give the necessary impetus to people to go out and get a place in which the new standards and ideas can be more easily realized.

The expressed policies of migration through which in recent years statesmen have thought that they saw relief for hard conditions by an exodus of a part of the population have been singularly naïve. During the past century population movements have been in terms of a world-frontier, a frontier which is constantly receding. The policies of aggressive colonization have been framed in response to this fact. They are not policies which can be adopted by all nations. They are, rather, the policies for temporarily ascendant peoples. Such policies have not necessarily implied extreme population pressure; they merely mean that other countries offer richer opportunities and that the filtration back and forth may benefit all. In other instances they have been motivated by the purpose of peopling a country with a desirable stock, as Frederick the Great sought to do in Prussia, or as England did in inviting the Huguenot weavers to her shores. In still other instances the policy has been one of colonization, directed toward the twofold purpose of relieving population pressure at home and at the same time of keeping control over the immigrated population

for purposes of defense and trade. The colonial policies of England, Germany, and more recently of Italy, familiarly illustrate such efforts to control migration with more or less success. Britain has succeeded in opening up careers for her younger sons, and colonials have proved loyal to the mother-country in time of war. But the advantages to trade may easily be overrated, as they were in colonial America; and the effort to keep the national tie in a foreign country has proved quite futile. In spite of *Vereine* and an active propaganda to preserve the *Deutschtum*, pre-war Germany, like all other countries, was unable to maintain the national bond of those who had settled outside her political domain. Emigrants have become good citizens, too good citizens, of the new countries to which they have gone.

On the quantitative aspect it is a moot question whether migration in the long run reduces population, or, perhaps, increases it. Malthus contended that migration is an insignificant remedy for overpopulation. He regarded America and the hereafter as alternative recipients of the overflow, but even with these outlets he believed that the British population would not be greatly reduced thereby and that the result could only be to crowd all regions and make the distress of overpopulation world-wide. If this is true, the end result of emigration is merely to mix races.

The classic statement of the argument that migration does not change numbers comes from America. General Francis Walker[5] set forth the claim that the population of the United States had not been increased by immi-

[5] *Discussions in Economics and Statistics*, II, 29–45, 417–28, 437–54; also, American Economic Association, *Publications*, VI (Jan. and March, 1891), 15–38.

gration, but that the influx of immigrants from the Old World had merely displaced a population which otherwise would have been contributed from the native stock. It is obviously absurd to apply this theory to the whole history of American migrations. The Indian population, if unmolested by European traders and colonists, would scarcely have multiplied in three hundred years to over one hundred millions with an average density of 35.5 per square mile. But reckoning from the time when the European population was well established and a consciousness of community life, government, and economic organization had developed, the argument deserves serious examination. The community it is argued, having decided how it wanted to live, became suspicious of other nations and races. As the social structure grew more differentiated, the line of aloofness between the earlier and the later comers stiffened. The older population drew within its shell; its birth-rate declined; it tended to extinguish itself in order to make good its superiority. It is difficult to maintain for the theory all that its author claimed, but it serves the useful purpose of calling attention to the complex redistribution of classes and races which are incidental to large-scale migration and which are likely to be neglected by those who think of population growth only in terms of a census enumeration.

More recently, in the United States, attention has been directed to qualitative differences in the immigrant population, not as they express themselves in certain individuals, but as they are expressed in race and national groups. The fear of "race-suicide" is easily evoked in a country with a polyglot population, and within the last twenty-five years the feelings of racial

superiority of the so-called Nordic elements in the population have been gaining ground. This fear expressed itself in the popularity of the eugenics movement at the beginning of the century, and two decades later in the movement for selective immigration, and still more recently in the restrictive immigration legislation following the war. The reaction is not unlike that which occurred in England when the second Reform Bill raised similar questions as to whether, in truth, "one man is as good as another and often a good deal better"; and there, too, it was one of the factors responsible for the beginning of the science of eugenics.

It is not, in fact, easy to say what the significance of migration may be in a qualitative theory of population so long as emigration is voluntary and relatively costly. The mother-country stands to lose a class which is characteristically ambitious economically, or zealous for religious, political, or personal freedom; in some cases so pronounced as to lead to anarchy and extremely antisocial action. For the most part, during the nineteenth and early twentieth centuries European emigrants have been men, and to a less extent, women, vigorous of mind and body, in the prime of life, economically able to pay for the journey, and hence not of the poorest class. Among them have been also persons of opposite character, the ne'er-do-wells, the fugitives, criminals, and overadventurous. In so far as these persons go to stay, emigration works more definitely than cityward migration tc exhaust from the mother-country the types which characteristically migrate. The country of immigration gains by receiving energetic, ambitious adults; but the combination of individually good types may make a bad populace, torn by racial antipathies,

confused by a babel of tongues, menaced by diverse political prejudices. Furthermore, the best of the emigrant people may be below the cultural level of the population which receives them—a situation conducive to exploitation and calculated to intensify problems of social organization and adjustment. To some extent the back and forth movement of certain recent migrations, as, for instance, the Italians to South America, and to the United States before the war, and the French-Canadians in New England, reverses the loss to the mother-country, for the country is able at the same time to keep its men and enjoy the advantages which come from having them more advantageously employed elsewhere than they would had they been at home.

Population problems have come in the past one hundred and twenty-five years to be recognized as no less varied and paradoxical than life itself. Many, perhaps all of them, are not new, but as old as birth and death. What is new is our conscious concern for them and our optimistic faith that by taking thought we may extend the boundaries of knowledge and establish a rational control over these processes of birth, death, and the movement of peoples about the earth which embrace the most vital and far-reaching consequences for ourselves and for posterity. A philosophy of population, if we ever attain it, must rest on the fact that man at present has to work out his destiny in a complicated institutional environment with a protozoan, biological equipment. A solution of the problems of population must not fatally clash with any of these elements. What is needed is a biochemistry of institutional life.

XII

REFLECTIONS ON THE CASE FOR BIRTH-CONTROL[1]

It is a brave man who, today,[2] undertakes to examine the case for birth-control, not because he fears the rebuffs of an outraged Victorian delicacy, but—what is far more serious now—because he lays himself open to the risk of lapsing into unenlightened moralizing. In a time when intelligent people generally are talking about birth-control, and a national commission compiles formidable volumes of evidence, it is not easy to avoid platitudes. But the risk is, perhaps, worth taking, for the issues involved are strategic to any attempt to understand and evaluate the trend of modern life.

It is unnecessary here to review in detail evidence of the prevalence of the practice of contraception, for there is universal testimony that it is widespread and increasing, and there is every reason to believe that it will continue. So far as its history in the past decades is concerned, it has been adopted first by the progressive, clear-thinking minority of the upper and middle classes. With the exception of France, where the peasantry have long practiced birth-control after a fashion, it has been an urban rather than a rural phenomenon. It bids fair within the next decades to permeate all economic classes and

[1] Compiled by the editor from manuscript notes and lectures of James A. Field.

[2] [The reader is asked to bear in mind throughout this Essay that the lectures upon which it is based, were delivered in the years 1923 and 1924.—EDITOR.]

geographical areas of the countries which are dominated by the culture of Western Europe. No one in a position to judge will dispute the fact of the prevalence of the practice of birth-control nor doubt that it is destined to play an important rôle in the history of the twentieth century. But to recognize its prevalence does not take one far toward an understanding of the issues that it raises or the motives which prompt its use, nor does it mean that it enjoys the unreserved approval of those who have adopted it. The problems which birth-control introduces must be understood and faced, for the new power it gives to control human destiny is too great to be abandoned. It has come to stay. Our concern is to inquire what its use may mean for mankind.

The desire to enjoy the pleasures of sex, in their highest form, without incurring the natural responsibilities thereof is not peculiar to our civilization. There is ample reason to believe it has long troubled mankind. What is peculiar to us is the possession of the knowledge by which this desired result may be easily and harmlessly attained. This knowledge, elementary as it may seem from an objective point of view, has been accepted in modern society with the greatest reluctance. It has, indeed, precipitated nothing short of a moral revolution. It not only breaks with ecclesiastical morality, but it cuts deep into the emotions which support the mystical sanctions of conduct. For of all of the experiences of life, those connected with marriage and the family are the most intimate, about them cling the most precious sentiments, and regarding them the most vital rules of conduct are imposed. The oncoming of life and the birth of a child have long been regarded as holy things to be

revered by men and guarded by authority. The proposal to submit these primary processes to conscious regulation cuts athwart the authoritarian and emotional sanctions and substitutes man's rational judgment as the arbiter of these great issues. There is moral bereavement when advancing knowledge and changing manners despoil the ancient temples in which man has worshiped. It offends the mystical sense that the individual should presume to set himself up as deputy to the creator, to pit his will against the will of God. Religion and conventional morality have, indeed, gradually undergone a change of attitude toward birth-control, but they have yielded ground slowly and reluctantly to a propaganda and a practice which have run ahead of traditional moral ideas and the decrees of ecclesiastical authority. The contemporary history of birth-control furnishes an illustration of the frictions within the individual and between social classes which accompany abrupt transition in ways of doing and thinking in which social change gains headway by uneven advances along the moral front. The sophisticated classes who are aware of what is going on in the world of action and ideas make the transition easily and quickly. They are the radicals of their generation. For the rank and file the adaptation of attitude and initiation of action require tact and time.

The attack which birth-control makes upon established ideas of morality and its emphasis upon man's right to hear all things, know all things, and decide for himself has brought it inevitably into conflict with the law and identified the cause with free-speech and free-thought movements. It is not surprising, then, that the early advocates of birth-control in England were Radicals and free-thinkers, and that in all countries the

propaganda has been initiated by persons of adventurous temper who were more or less at variance with the established order. The chief opponents are characteristically the guardians of traditional morality and the mystics who are skeptical of the capacity of man's intelligence to direct human affairs.

The statement of an ethic of birth-control has been a development of slow growth. The early Radicals, Carlile, Place, and Mill, stood courageously between two codes of morals, an older one founded on the solid rock of religion and the mystical sanction, and the newer ethics of utilitarianism seeking to establish itself in the shifting sands of rational intelligence. On the side of the one were ranged all the battalions of the emotions. The hosts of righteousness in the assurance of their power would not stop to parley with those who desecrated the laws of nature and of God. They trusted those laws to bring them ultimate good. The new code demanded of men that they sit down and calmly take thought concerning the nature of their beings and the conditions of life imposed by stubborn reality. Nature was to them not a beautiful system of compensations but "a blind and dirty old toad,"[3] of whom they knew too much to be impressed with her inherent beneficence.

But although these early neo-Malthusians repudiated nature and her works as instruments of good, the later utilitarians gradually evolved their own law of nature based on the Darwinian theory of evolution. Morals, like plants and animals they held were subject to the law of adaptation and survival of the fittest, by which slowly and painfully higher types were evolved. Thus,

[3] Place Manuscripts, Letter to Carlile, Vol. LXVIII, Hendon (see above p. 129).

things were moral and suitable if they fell in with this general conception of the progress of man toward an ultimate, if unattainable, goal of perfection. Utilitarianism gave the setting for the doctrine of intelligent responsibility which is the foundation of the neo-Malthusian argument for birth-control. So founded, it was bound to come to an open breach with the older, mystical, quasi-religious, and more romantic conceptions of the institutions of marriage and the family.

The argument for birth-control rests ultimately upon the assumption that by taking thought man may improve his condition. In the Victorian phrase, man's progress depends upon the exercise of *intelligent responsibility*. It is rational, practical, and pragmatic. Historically the birth-control movement is the child of utilitarian philosophy and the nineteenth-century discoveries in biology. Its advent was predestined in the development of scientific knowledge and the rise of political democracy of the past seventy-five years. The great advances in science exerted their influence in every field of thought and activity, and were reflected in an insatiable curiosity to find out how things happen and how they can be controlled in the most satisfactory way. The ascendency of political democracy ordained that the new knowledge should be devoted to the welfare of the common man. Thus the impetus to the birth-control movement came as a natural step in the spread of scientific knowledge of the physiological processes of reproduction.

Once sophisticated people become committed to the idea of intelligent responsibility for finding out what was behind the conditions that determine their happiness and the welfare of society, they are racked by an unre-

lenting sense of obligation to understand and control the things which they deem important to themselves and mankind at large. The English neo-Malthusians of the latter half of the nineteenth century were such intelligent and responsible persons who felt keenly the duty of finding a means for overcoming the misery of the world. The teachings of Malthus and John Stuart Mill led them to the conclusion that the most prevalent and fundamental cause of poverty lay in the fact that too many children found their way into the poor man's home. As they were practical reformers as well as moral philosophers, this little band of thinkers set about to discover the means and the principles by which this troublesome phenomenon might be controlled. They found their principles in the utilitarian philosophy and their method in the control of births by the use of contraceptives.

The neo-Malthusians conceded the Malthusian argument a logical position, worthy of notice, but they thought that the argument had not been carried to its logical conclusion. At the critical point Malthus had lapsed back to the mystical sanction and refused to face the facts squarely, and hence his demonstration was incomplete. Malthus had designated the principal preventive check as moral restraint, but in the Malthusian context "moral" did not imply a limitation of population based upon ethical grounds. "Moral" referred only to maintaining strictly moral conduct during the period in which, for prudential reasons, a man should not undertake the responsibilities of a family. The practice of contraception was itself immoral according to the ideas of virtuous conduct which he and the majority of his class recognized. The *moral* argument for birth-control was stated by the radical followers of Malthus who ap-

plied the utilitarian argument underlying his preventive check to the means by which the check should be made effective. They set out to find a means of controlling population that would offer the least objectionable way out of a vital human dilemma, and they found it in contraception.

True to their utilitarian predilections, the neo-Malthusians stated the problem of birth-control in terms of the lesser evil. Dr. George Drysdale, who expounded the neo-Malthusian argument in a book published anonymously under the title of *The Elements of Social Science*,[4] set up "poverty, prostitution, and celibacy" as the alternatives to birth-control. His poverty is Malthus' misery, but the word stresses the economic connotation. Malthus' vice he calls by the more direct term, prostitution, and dissociates contraception from it, a distinction between the evil and the remedy which Malthus had not made. Celibacy he classified as an evil co-ordinate with poverty and prostitution. The neo-Malthusians did not claim that their slogan "early marriage and late parentage" expressed an ideal solution for the personal dilemma arising out of the population problem; rather, it proposed the most acceptable solution available. It was better than poverty or prostitution. Mrs. Besant attributed the prevalence of prostitution among the poor to the unwillingness of the more ambitious and prudent men to enter in youth upon a relationship for the probable consequences of which they would have to assume full responsibility. It followed that if the fear of incurring an undesirably large family

[4] *Elements of Social Science; or Physical, Sexual and Natural Religion. An exposition of the True cause and only cure of the three Primary Social Evils: Poverty, Prostitution, and Celibacy. By a Doctor of Medicine* (London, 1854).

could be removed, men would have an opportunity to indulge the sex impulse in a normal way within the bonds of marriage, and the poverty which economically and morally was both cause and effect of prostitution would be eliminated. Thus birth-control offered a two-fold escape from an evil which all united to deplore.

But prostitution and poverty are only Malthus' familiar misery and vice, and had the neo-Malthusians stopped there they would have added little to the Malthusian argument. The strict followers of Malthus, the clerics and the keepers of traditional morality, might still press for the prudential check of moral restraint. What drew the ire of conservative people against Dr. George Drysdale and his friends was not only their challenge of continence in the marriage relation but their attack upon the ideal of celibacy. They dethroned it from its position as the highest ideal of life, and showed it as a constraint against nature which drains the energies and racks the psychic life of the individual. They classed it as an evil in the same category as poverty and prostitution. Long before Freud had made repression, sublimation, and the variety of sex complexes part of our familiar vocabulary, they pleaded for a consideration of the moral claims of the physical life as of equal value with those of the spiritual life. They were daring pioneers of the idea that undue restraint of the sex motive is an influence of incalculable evil.

The main trend of the modern birth-control movement is neither avowedly Malthusian nor utilitarian. Indeed, its various disciples do not agree as to its philosophical and economic postulates, so that the statement of a comprehensive and unified doctrine cannot be made.

One may only infer first principles from the nature of the general argument one hears and the character of the activity one observes. There appear, however, to be certain broad aspects which may be said to characterize the modern movement and which offer a basis of comparison with the earlier neo-Malthusianism. The first and most obvious comparison points to a similarity rather than a difference. The present-day advocates of birth-control accept the assumption of intelligent responsibility as the *raison* of their action as readily as did the Victorians who first framed the argument. Such an assumption is so flattering to the vanity and so congenial to the temper of a rational and scientific age that one is not inclined to inquire carefully into its validity. Nevertheless, there are those who challenge its easy optimism. After three-quarters of a century in which faith in rational judgment and the scientific method, as applied to human affairs, has been gaining ground, there is evidence of a strong reaction against the acceptance of science as a guide in this most important and intimate realm of conduct. "We have harked unto Science," say those who are skeptical of the scientific age, "and we have followed where she has led, and lo, the mystery of life remains wrapped in mists and darkness. Her sun lights us only through the day of facts, but she sends no fiery pillar to guide us through the night to ultimate values. Let us, therefore, abide in the cool and protecting darkness and venture not forth into the scorching heat of day which brings us only distress and weariness of spirit." But, however appealing this may be to souls attuned to the siren voices of quietism, it has not deterred modern civilization from the path of scientific progress upon which it is bent. The logic of futility does not turn a

practical generation from the use of those things which it has found convenient because they fail to disclose the secret of the Sphinx. But if renunciation has no charms for us, we may still be sensitive to the conservative voice of caution. "After all," it counsels, "birth-control is a very new thing; it is an untried experiment. We do not yet see where it is leading us. It is a path that closes behind us. Once started there is no going back. It behooves us to proceed slowly until we can discern its final destination." This time we hesitate. We are impressed with the immensity of the values with which we are dealing and the portent of the results which wait upon our action. Perhaps we are a bit head-long. The voice of caution may retard our speed, but it has not halted our progress. We reflect that we do not proceed through life by following out the ultimate implications of things before we act upon them. In framing the laws that shall govern us, in organizing the society in which we shall live, and in adapting the forces of nature to serve our comfort and enlarge our powers, we act upon what knowledge we have and under the stress of felt needs. Can we consistently refuse to apply this pragmatic method to the problems of birth-control? All of our civilization is in a sense artificial and contrary to the natural order of things. Life is a continuous process of trial and error in which ultimate relations are revealed, if at all, in action. We avail ourselves of what wit and knowledge we can muster to better our conditions generally, and considering the continuity of the human race it is fallacious not to use our opportunities to better it by taking advantage of past mistakes and experiences. But even though we accept the intelligence as the best guide we have under the circumstances, we may still demur in the face of the

momentous and dangerous venture upon which we have set out. "We cannot go back to the past," we admit, "but should the exploration be entered upon by all and sundry? We will do better to send out a few chosen ones to explore and spy out the Promised Land." Birth-control, in other words, is not ready for the masses. The intelligent responsibility which it assumes can be properly exercised only by the intellectually élite. Thus historically, by accident first and later by intent, birth-control became a class problem, and the morality which supported it a class morality.

There can be little doubt that economic motives are today, as in the past, the most urgent motives underlying the birth-control movement, whether it be the middle class who practice it or the propagandists who carry it to the masses. But the present attitude bears a difference to the earlier position of the neo-Malthusians. The nineteenth-century advocates of birth-control were primarily concerned with the prevention of poverty. Their twentieth-century descendants have broadened the argument and applied it to maintaining a standard of living; and at the same time they have given fuller consideration to the influence of non-economic motives, especially those inherent in modern feminism, than appear to have been accorded by the pioneers. Birth-control is advocated now, not alone as a means of helping the poor man out of his dilemma, but as a rational way of life for individuals with economic standards to maintain and ideals of individual attainment for themselves and for their children.

The neo-Malthusians assumed the relation of birth-control to poverty to be simple and direct, but a more careful inquiry into the ultimate nature of poverty re-

veals difficulties. What, we may ask, is poverty, and how much income must a man have to raise him above the poverty line? From a long-run view, poverty is not an absolute state, but one that varies with the time, the place, and the general conditions of well-being. Similarly, from the point of view of the individual, poverty is relative to what one has and what one would like to have. In a sense, one's degree of poverty depends upon the vividness of one's imagination. It is possible that the general level of economic welfare of a community may be raised or lowered by virtue of an increase or decrease in the number of individuals who compose it, and to that extent the economic motive of birth-control may be sound. But, in the more intimate meaning of poverty, as the failure to attain a standard of living which a person or a society deems the minimum of tolerance, something more than the mere limitation of numbers is necessary. We are accustomed to regard those at the bottom of the economic scale as poor, and so they often are in an absolute sense. But in a relative sense, those persons are poor also who fail to attain a minimum standard of living which they hold to be tolerable, and these suffer quite as much from the psychological inhibitions of poverty, even though in a physiological sense they may meet the test of adequate income. Poverty, in other words, is a function of economic inequality. It is yet to be determined whether for the entire population and over a long term of years, after standards of living and conditions of supply had been readjusted to a smaller population, the sense of poverty would be really reduced by any such method. The economic results of birth-control must be studied more fully before we can give a reasoned judgment on this point.

Another aspect of the operation of the economic motive in relation to birth-control which is today attracting attention is its differential character. Although other motives enter in to produce the phenomenon of the differential birth-rate, there can be little doubt that the economic motives which express themselves in an urgent ambition to improve a standard of living are the most conscious and powerful ones. What this bodes for the human type is not yet clear. There are those who see in it an irretrievable loss through the gradual decline of superior stocks. Others of more equalitarian temper welcome it as the means whereby a better readjustment of economic opportunity to biological worth may be achieved. Those who take the first position urge the rich and well-to-do to have larger families, and agitate for immigration restriction. Those who hold the latter view may relish the obvious concern of the intrenched classes. The man of careful judgment, to whichever view he may incline, will keep his mind open to further evidence.

Almost as conspicuous today as the economic motive, is the motive of individual liberty. This is, perhaps, a reflection of the new status of women and the feminine leadership in the modern birth-control movement. The earlier movement was carried on almost exclusively by men; and it is not surprising, therefore, that the economic motive and the economic consequences of propagation were chiefly stressed. The argument of individual liberty is essentially a woman's argument. It may be construed as a variant of the economic motive, inasmuch as the economic independence of men, and more particularly of women, is curtailed by the obligations of a family, especially if the income is small. But even though means are unstinted, there are women who feel

that continuous child-bearing and the demands of a large family are incompatible with the proper discharge of the duties of motherhood and the reasonable demands of individual development. Others, although they may find their greatest satisfaction in having a large number of children, regard birth-control as none the less important as a symbol of status and the essential means by which the rights of women as independent and self-sustaining personalities may be safeguarded. Malthus looked upon man as doomed to poverty by reason of his too numerous offspring. The modern woman regards the right and ability to control the function of child-bearing as the fundamental condition of the exercise of that liberty which is essential to the realization of personality, for what is liberty but the opportunity to exercise the function of reasonable choice in things that matter?

The new freedom which birth-control has conferred has placed women in a position which, if we may judge by their own testimony in current literature, is bewildering even to themselves. It is natural that those who prefer to trust human affairs to the operation of divine laws of nature rather than to try to direct them by conscious control should lament it, and among those of more rational turn of mind there is a frequently expressed pessimism over the ultimate results which the new powers of choice may produce. It is, indeed, not difficult to maintain that the modern generation has been over-insistent in the matter of personal liberty. It may have fallen into the easy error of overrating the apparent advantages of self-development, and underrating the subtler and deeper values of family life. But even though one may deplore the voluntarily childless and one-child marriage, one should be cautious in judging the behavior of the future generation by that of its

predecessor. Nor is it wise to predict the future of birth-control from the experiences of the past fifty years. To those who have come to maturity in the period since the eighties, birth-control has opened a new and adventurous way of life. It has offered escape from circumstances which they were brought up to dread and which they have not ceased to fear. In this generation those who have accepted it have been complacent in the enjoyment of its results and inclined to treat patronizingly those who have been slower or less fortunate. To those who have not known the secrets of effective contraception, the natural hardships and sacrifices of a large family have been rendered more poignant by the realization that they have been excluded from something essential which they feel they had a right to possess. Their children are swift to enter upon their deferred birthright. Once the knowledge of birth-control becomes generally disseminated and people regard it as naturally as they regard the use of anesthetics in operations, they will be able to consider rationally its rightful place in the scheme of things. The thrill and excitement of having a new power for controlling one's life in this generation has made many clutch eagerly at it, half-fearful that it will be snatched away before they can enjoy the freedom they have glimpsed. Another, and a more sophisticated, generation will be assured of its possession. It will be able to observe the results and appraise the limitations and costs of the new freedom. With less passion than we, it may judge the alternatives to family life and place birth-control judiciously in its hierarchy of values. It is quite possible that it will define the function of birth-control quite differently than this generation has done. It is almost sure to do so more intelligently.

But even though poverty is a more complicated psy-

chological phenomenon than the neo-Malthusians assumed it to be, and the desire for individual liberty be condemned as selfish and short-sighted, there remain powerful and pressing motives to the practice of birth-control. If ever the scientists propound to us the laws of human heredity and instruct us in the art of breeding the human race, birth-control will be an indispensable element in the program of practical eugenics, as it is already used by the most sophisticated members of the community in an attempt to prevent the birth of hopelessly unfit offspring. More potent than the eugenic motive, because its results are more easily demonstrated, is the health motive. Even those persons most opposed to birth-control on principle have recognized it as beneficent in cases where the health of the mother or the child is seriously involved; and if harmless means of preventing conception can be made generally available, this argument is easily extended to include, not only those who are already physically debilitated, but also the maintenance of a high level of health for the mother and the children already in the family. In the elimination of the unfit and the maintenance of a high level of health we have standards for human choice which command general acceptance, and it cannot be denied that birth-control may be an indispensable facilitating means to both.

The most potent charge against birth-control, not in point of logic, but in its appeal to the ordinary man, is that it is an unnatural practice. Those who are impressed with this argument regard the advent of new life as proceeding by a preordained system. The laws of nature are the laws of God. They are made known to man by revelation; they are inflexible and inviolable, ex-

cept at the risk of destruction in another world if the offenders are so lucky as to escape in this. To flout them is both sin and folly. Such is the argument of unnaturalism. But a moment's calm reflection suggests that what men recognize as the laws of nature bear an embarrassing similarity to their own opinions. There is scarcely one of our most unquestioned habitual procedures which may not be called unnatural, such, for instance, as the innocent and highly useful habit of carrying umbrellas, the beneficent application of surgery to solace bodily ills, and the eminently decent and respectable convention of wearing clothes. The laws of nature are often only myths by which man satisfies his desire for understanding where knowledge is wanting. He invests them with poetry and romance in comparison with which the facts, when finally discovered, seem pale and uninspired. It is not so many years since the story of Icarus as truly reflected the contemporary attitude as it did that of the Greeks three thousand years ago, and it is not beyond the memory of man when Darias Green and his flying machine had another connotation than that of proving once again the blindness and backwardness of our fathers. In the charge of offending nature birth-control has shared the fate common to all significant innovations, and like them it has witnessed a gradual change of accepted ideas and dogmas. In less than one hundred years after the beginning of the serious propaganda of the birth-control movement, even priests, bishops, and clerics have significantly modified their positions.[5] They no longer question man's right to act

[5] [Certain recent developments confirm this prediction. Among them may be noted the action of the Lambeth Conference of Bishops in 1930, and prior to this favorable action by several churches in the United States, including the Central Conference of American Rabbis, the Universalists, one section of

in the rôle of deputy creator. It does not offend nature to have man dictate the times and seasons when new life shall emanate. They confine their criticism to the means he shall take for acting his part. Those are natural or unnatural, according as they are independent of, or dependent upon, artificial aids to their accomplishment.

With contraceptive technique in its present stage of development, the argument for birth-control is, in the last analysis, an argument of alternatives, and its acceptability for the individual rests upon the validity of these alternatives as applied in each particular case. While most people would agree with certain eminent advocates of birth-control in lamenting the necessity of choosing between the use of contraceptives and the unregulated conception of offspring, or the wasteful methods of abortion and infanticide, that does not affect the practical issue. To many the alternative of birth-control seems desirable. Others prefer to accept the more rigorous rule of continence. To the person who regards birth-control furtively and with a sense of shame the practice of it must necessarily be degrading. If he cannot adopt it without breaking with or violating his scheme of values, the choice of celibacy may be the lesser evil, and through the process of sublimation he may discover compensations which more than offset the psychic strain attending it. The choice is one which only the individual can make for himself.

The present quarrel between the opponents and the advocates of birth-control is largely one of method, and

---

Methodists, and the Unitarians. The opposition of the Roman Catholic Church is qualified, as evidenced in the *Encyclical on Marriage* of Pope Pius XI. —EDITOR.]

here those who most strongly urge the affirmative propaganda are forced to admit the handicap of a backward technique. As a means to the great emancipation they can offer only working methods which are as yet not fully tested in respect to their reliability to produce the results desired and of their effects harmless or otherwise on physiological and psychological processes.[6] Until quite recently the matter has been almost totally neglected by those who are in a position to render the greatest contributions. Existing devices have been invented as a result of personal initiative or by the lure of commercial gain. Many of them go back into the mists of history, a folk lore passed along by word of mouth. Many are homely affairs, variants from a few general types and about as efficacious and dependable as the familiar home remedies for rheumatism and colic. But in considering the data on birth-control technique it must be remembered that most of our present case records are taken from the lower economic classes where the conditions are at best not propitious for success. There is good reason to suppose that among the classes in which the domestic arrangements are more convenient and the habit of mind adapted to giving careful attention to detail, the reliability of the best of the currently used devices may be accepted. It is one of the ironies of the situation that those who need it most from the economic point of view find the practice most difficult to perform, and it is equally ironical that the legal opposition is directed against the more effective methods. So long as there are clumsy, half-reliable devices which are used, it is stupid for the law to prevent the

[6] [Again we may note progress. Dr. James F. Cooper's recent book, *The Technique of Contraception* is a comprehensive and up-to-date study.—EDITOR.]

use of the more effective methods which will accomplish the ends sought. People will resort to the devices they are aware of despite the law. If a more scientific and reputable age is dawning for the birth-control movement, it is essential that the research activities of the medical profession be turned to the development of scientific devices by which conception may be adequately controlled. Until quite recently doctors have been noticeably backward in this field.[7] Few reputable physicians have worked on the problem.[8] It has not been investigated in medical laboratories and clinics nor discussed at their conferences, nor has the exchange of information so characteristic of the profession been extended to this field. Medical schools have not taught students the problems and technique of contraception. This neglect on the part of the profession which is most closely related to the problem is excused on the pretext that they do not have the knowledge requisite for dealing with it. In reply it may be pointed out that there is available as much scientific data regarding contraception as about many other things in respect to which physicians ordinarily give advice, and that the lack of information is due to the unwillingness of the profession in the past to give the subject honest consideration. There is evidence of a change in attitude among the leaders of the medical profession which may quite prob-

[7] [The statement that no investigations have been made in medical laboratories no longer holds. In the United States, the New York Committee on Maternal Health and more recently the National Committee on Maternal Health, Inc., and in England the Birth Control Investigation Committee are carrying on laboratory research. Clinical service is now provided in a number of hospitals, health centers, and independent clinics, and the medical literature both in periodicals and books is piling up. Scientific laboratories, not connected with medical institutions, are also investigating the subject.—EDITOR.]

[8] Mensinga is an exception to this general statement.

ably lead to a better understanding of technique within the next few years; and if that should occur, the birth-control movement will have a great opportunity. It will then have what in the past it has signally lacked—a *recognized* and reliable method of contraception based upon adequate investigation and adequate examination.

An appropriate technique must meet the tests of dependability, harmlessness to general health, availability, and delicacy. In cases of the ill health of the mother, or the eugenic unfitness of the parents, any method which allows even a fraction of error is unacceptable. It must be 100 per cent reliable, or it is valueless. It must not inflict any injury, either physiologically or psychologically. In the past birth-control has been a class practice because it has been available only to the well-to-do. To meet the test of availability a method is required which is adapted to those who live with few conveniences and who cannot be expected to use an elaborate and complicated technique. Finally, if contraception is to receive general public approval, it must not be fundamentally repugnant to sentiment and ideas of delicacy. There is still work to be done before contraceptive devices fully measure up to these standards. The solution of the mechanical problem is only one, and a relatively easy one, of the problems involved. It is quite as important, and much more difficult, to discover the elusive effects, both individual and social, which result from the practice.

Whatever the philosophers may say, it is quite certain that so long as the results of birth-control commend themselves to those who practice it, the knowledge will not be relinquished. Birth-control as a practice and as a propaganda in the twentieth century is frankly prag-

matic. It has spread because it meets a personal need which reflects a social philosophy that is for most people imperfectly formulated and essentially individualistic. If the race is threatened with extinction, or eugenics proves the policy to be wrong, or the world witnesses a return to a naïve religious belief, it is conceivable that the movement may weaken; but it is more probable that in the next generation it will spread and in time will establish itself as moral and even obligatory. Blind persecution will only increase its notoriety and spread the practice as it has done repeatedly in the past. The real choice to be made now is, not whether we shall have the practice of birth-control at all, but whether we shall have it practiced admittedly and by the methods which have been found by experiment to be best fitted to our purposes, or whether we shall have it carried on furtively by informal and untested methods circulated by the unreliable tongue of gossip. Already indications of the way the choice will lie are apparent. The outspoken advocates of birth-control are no longer confined to the radicals and the "antis." They comprise a substantial representation from the conservative, matter-of-fact, realistic members of the community. The quality of the argument is also changing, and many of the protests are already faint and some have completely died away. While the movement is still on the defensive, there is a tendency for its advocates to assert and argue rather than to consider and weigh: but once the proponents of birth-control are no longer in a fighting minority, they may find time and temper for thinking through the issues again and by so doing discover new standards and new goals toward which to direct this recently acquired power for controlling nature.

PART II

XIII

THE PLACE OF ECONOMIC THEORY IN GRADUATE WORK[1]

The very words of this topic are provocative. We are invited to consider the place of economic theory in graduate work. Here at the outset is the implication that in a general scheme of advanced economic study theory is to occupy a place somewhat apart. A distinction is, in effect, drawn for us between economic theory and ordinary economics.

If this suggested distinction were merely the mishap of a phrase it would be trivial to notice it. But in fact it accords closely with a good deal of our academic practice, and finds colloquial expression in our departmental discussions. We organize and announce separate courses in "theory." We require a specialist in "theory" as one member of a well-balanced economic staff. We are asked to recommend "a man in theory" to fill a vacant chair. We intrust "practical" courses to teachers who lack both inclination and capacity for "theoretical" instruction. We remark a bent toward theory in certain of our graduate students and an inaptitude for theory in others—thus ourselves raising, more or less superficially, the question that is here raised for us: What, after all, is the proper place of theory in the general plan of graduate instruction?

Now, of course, this prevalent view of the subject has

[1] Reprinted from the *Journal of Political Economy*, Vol. XXV, No. 1 (January, 1917).

its reasons and in some degree its justification. Undeniably, there are recognizable and proper differences in the stage of abstraction to which our several economic inquiries are pursued. But we have allowed these differences of degree and extent to grow into supposedly important differences of kind, with results which are unfortunate alike for economic theory and for the impliedly non-theoretical economics. In consequence we habitually set off economic theory as a distinct branch of our subject; we identify it to a regrettable extent with the more or less conventionalized theory of value and distribution; and, attributing to economic theory, thus conceived, a peculiar and essential virtue akin to authority, we impose it upon the student in that pious spirit. With all these practices I take issue.

The word "theory" has come to have a double meaning. By its derivation, the theorist is the onlooker who sees comprehensively and with inward reflection. Theory thus becomes the generalized interpretation of fact—the reasoned scheme which fits the array of facts and gives them relation and meaning. But such generalization has been misunderstood and misrepresented. To the common mind, distrustful of abstractions, theory, since it is distinct from specific and concrete fact, seems necessarily the opposite of fact, and thus the antithesis of reality. Theory becomes fantastic, visionary, not to be taken seriously. The plain, every day world seems to have no place for it. In fine, it is a term of disparagement.

This ambiguity of meaning seems to have embarrassed a good many of the economists. They recognize, somewhat perfunctorily, the importance and dignity of scientific generalization. They vaguely perceive that an

abstract principle, reasonably consistent with all the known evidence, is, in a very real sense, truer than the single, incomplete, and perhaps unrepresentative impression which we call a fact. But at the same time they find any departure from fact disconcerting. Economics deals, supposedly, with very practical matters and appeals to practical people. If it is once branded as theory it loses touch with the business man's world of industry and trade. So, believing in theoretical economics, yet fearing to compromise the reputation of economics as a study of affairs, the perplexed economists contrive to separate the two. In the outcome we find economic theory enshrined apart and regarded with perhaps more veneration than intelligence.

Here a new complication arises. Theory, held aloof and cut away from the contacts that make for change, acquires a prestige of tradition. Already remote from its factual data as a result of extreme abstraction, it now becomes remote in time as well; but what it loses in reality it is supposed more than to regain in authority. However much a practical modern student may hesitate to stray from his facts, the case looks different when the straying has been done by several successive generations of distinguished thinkers. Under these impressive auspices, moreover, we are inclined to forget, except in our most irreverent moments, that the empirical foundations of the classical system of economics were probably never what we should now call critically valid scientific data. Yet in the old days, quite as much as now, what passed for objective fact must have been largely dogma or partisan opinion. Indeed, the notion of historical relativity has latterly accustomed us to read between the lines of English economics, for example, the politics of

merchant princes, the complaints of poor-rate payers, the differences between landed proprietors and a newly risen industrial bourgeoisie. Hence, to the extent to which we attribute greater objectivity to contemporary scientific observations we must be uneasily conscious that our theoretical heirlooms do not stand on quite the same ground with more recent studies. If both are to be retained, each must have its separate justification. Again the line of demarkation is drawn; and traditional theory is preserved in a place of its own, partly from inertia, partly through vague respect for authority, and partly because we feel that the older views, whatever their original basis may have been, are now so far purified by much dialectical refinement as to have a peculiar claim to our allegiance.

In a measure, no doubt, it is true that the long-continued process of intellectual sublimation has translated orthodox economics from rought empiricism toward the sphere of so-called first principles. If that is the case, and if first principles reflect the more or less fixed conditions and laws of human thought, it will follow that the correctness of our extreme economic abstractions cannot very well be disproved. The superior expediency of such rarefied thought is nevertheless questionable. In terms of first principles, all branches of thought approach a limiting unity and lose their particular characteristics. But the economics which most of us believe in has a fairly well-identified place in a field of fairly tangible information. The most useful plane for economic theorizing in neither on the surface-level of fact nor at the depth of first principles. It lies somewhere between. There theory in its more robust sense organizes, relates, and interprets the material of our

observation. It is the systematic framework that articulates detailed descriptive knowledge. And it tests its validity by the degree to which it informs with general meaning the aggregate of our concrete experiences of mankind getting a living in modern society.

If, then, theory be thus vigorously interpreted as the organization of scientific knowledge, it is, beyond all dispute, vital in the field of economics. Economics *is* theory of just this sort. The name economics cannot rightly be applied to bare, disorganized observations of the phenomena of industrial society. On the other hand, it is wasted if it is made to refer exclusively to the impalpable substance of abstruse reflection.

It has not been my intention, in what has preceded, to argue that the university curriculum has no place for an essentially detached study of abstract economic theory. I do maintain that the importance of traditional theory is commonly overrated, and that there is economic theory of a different and far more indispensable sort. But before this point is further elaborated it will be well to notice a phase of our topic that has thus far been neglected. We are inquiring what is the proper place of theory in graduate work. Let us consider a moment what results graduate work is meant to accomplish and how these results may best be attained.

Roughly, our graduate curriculum has three chief ends in view. We strive to equip teachers; to impart learning, and thus foster scholarship in the sense of erudition: and, finally, to train for original investigation and research. As the course of study for the doctorate is ordinarily organized, these purposes are confused to an extent not at all creditable to the clearness of our thinking; for the objects sought are not necessarily identical,

nor even quite consistent. The man who has written a monograph in an unexplored field may be perfectly unqualified to teach. The scholar, drenched in the literature of his subject, may have power neither to add to it nor even to make it effectually known to others. For the present occasion, let us take up the several ends of graduate study separately.

The teacher's training must depend very largely upon what he is expected to teach. Logically, there would seem to be no reason to train teachers of a subject that does not commend itself as worth teaching. Practically, teachers are produced to suit the demand of the market. Pedagogical technique apart, if the teacher is required to teach old-line theory, he must have been taught old-line theory. If he is to guide students in research, he must understand the method and spirit of research. This, however, as will shortly be urged, implies a grasp of essential theory in the truest and best sense.

To the man learned in economics nothing economic is alien. Old ideas and new, accepted views and rejected fallacies, pure theory and concrete fact—all fall into place in his scheme, properly enough, if they have had their place in the history of economic thought. So long as scholarship for scholarship's sake—as a passion of the intellect—is held to be a just object of attainment, so long each item of interest will have its own justification. The economic antiquarian and savant is as worthy of respect as any other. But because all economic knowledge is properly his, he can hardly stand as the sponsor of any one special branch of it.

It is the investigator, the constructive scholar, who seems to stand out in our minds as the special end and aim of graduate training. The usual specifications for

the Doctor's degree show this emphasis clearly enough. We wish our trained economist not merely to absorb, or to transmit, but to enlarge our knowledge of the economic conditions of life. Even if much of his career is to be spent in teaching, he still must have the disciplined power of discovery. What, then, has the study of theory to offer to him?

From the first, he must see phenomena in terms of their significant relationships. Lacking ability thus to relate, systematize, interpret, he is no true economist, but at best only an economist's helper, whose labors avail little unless they are performed under the direction of the more highly skilled worker who has the judgment to put each detail in its due place. But to see facts in their larger, more general aspects is to theorize. Only the sound theorist can be the sound investigator, and only the sound investigator can deepen our understanding of economic principles in the long run.

It will be apparent that the term "theory" is here used to cover both the concept of a right method of investigation and the refined and generalized conclusions which grow from scientifically gathered data. Theory and method do indeed blend together. In the present context, however, method is the more emphasized. The question will therefore arise: How otherwise is a correct method to be acquired than by faithful study of the examples of economic inquiry which have come down to us?

Clearly there is no occasion to depreciate the importance of a critical acquaintance with the best previous economic thinking. There are, however, several reasons to protest against attributing unique and exclusive authority to so-called theoretical economics of the past.

First, in any branch of knowledge that is to live and grow, past achievements are not so much patterns for later work as points of departure. This granted, it is next to be insisted that in learning from past achievements we must consult for our guidance, not merely abstract works on economic theory and methods, but the examples of theory and method embodied in the more concrete economic investigations. Nor is this enough. Not even the whole range of the older economics will suffice as the basis of economics in the future. The modern economist must draw suggestion from other sources of thought, and borrow new methods, new standards of scientific technique, wherever they are to be found and adapted.

The prevalent usage of our academic routine introduces the undergraduate to the economic domain through the gateway of orthodox theory.[2] The theoretical discipline of the introductory course is often mild, to be sure, and the theoretical content eclectic, scattered, or even contradictory. Nevertheless, the ordinary procedure has been to inculcate certain accepted generalizations or principles before admitting the student to the more factual and descriptive courses in economics; and here again a virtual antithesis between theoretical foundation and "applied" or "practical" superstructure has doubtless widened the implicit gulf between economic theory and the rest of economics. The word "applied" itself, in this connection, hints of such a false antithesis, for it suggests that the evidence pre-

[2] This practice, fortunately, is becoming far less universal than it was. More enlightened methods of elementary economic instruction, and especially emphasis upon the development of economic institutions, have already effected an important change for the better.

sented in specialized courses must be made to fit the preconceptions or some previously promulgated theory. However, if, despite this handicap, the student's "practical" courses convince him that he is interested in economics, and if, accordingly, he enters upon graduate work, again he is met at or near the threshold with a requirement of theoretical tasks to be preformed before his more individual and original studies are undertaken. Thus the course to the doctorate is stratified—theory and application, theory and application; and in each pair of strata, theory, in time or in emphasis, comes first. The output of such a system will in the main be an output of conformists. Some students will, of course, become radicals through revolt. More, perhaps, will simply be lost to economics by disaffection. The majority will be economists of sorts, creditable on the whole, safe, sane, and unoriginal. Their drill has been such as to assure them against going far off the path. But their chances of going splendidly right in the direction of originality and creative thought would have been better if their training had been less pervaded by the spirit of authority.

Contemporary economics needs to beware of ex-cathedra doctrine. The distinction between scholarship and scholasticism did not cease with the Middle Ages. Thought has flowed on for a few centuries, and we recognize now what was then current and what was stagnation. But the stream still flows; and even contemporary judgment occasionally suspects that some of our present-day theoretical disputations and formulations of economic systems are thoughts caught in the eddies or lodged in slack water. Moreover, the stream of economic ideas descends from no one fountain head. It has

been swelled and freshened from innumerable sources since the day of Adam Smith. And in so far as we are to be guided by tradition in our economic theorizing we must still expect to find a part of our tradition in the many sciences which our broadening view discloses as tributary to economics. They offer us new evidence, new methods, and the stimulating suggestion that comes from a mingling of hitherto separate ideas.

Fifty years from now much of what is best in the economics of that period will unquestionably be traceable to men and materials outside of the present conventional economic pale. Of the coming generation of economists not all are now professedly or consciously students of economics. Some are students in neighboring departments of academic discipline; others are intelligent workers outside the academic circle. Nor is it likely that these as yet unrevealed economists will prove to be less significant and original than their fellows whose predetermined careers are now taking shape in the accepted groove of economic instruction.

If this prediction seems reasonable, then it must be conceded that the economic-theory courses of our universities are not the single road to achievement in economics. One is tempted to take a further step and ask whether early and rigorous drill in orthodox economic theory is necessarily the only fit training for the academic student of economics. Is it not possible that he also may find elsewhere an equivalent discipline in scientific inference, perhaps a greater stimulus to fresh and original economic thinking, and at least an escape from the imposition of authoritative forms of thought until individuality and initiative in thought have been somewhat established? For my own part, I should have great

hopes of the economist whose beginnings had been made in the critical and intelligent study of social psychology, or of ethnology, or of institutional history, or of the law of public-service corporations, or of industrial engineering. When later some economic problem arrested his attention, it might stand out all the more sharply because of the half-contrasting background of his earlier intellectual experience. His analysis might be vivid and novel; and if his critical sense, in whatever branch of science acquired, were well enough developed to keep him from being too erratic, he could in due course enter upon a formal economic training with much to gain and little to lose by contact with its formality. Of course, not everyone so evolved makes an economist, but when an economist does thus arise he is likely to bring a message for the science.

Particularly auspicious among these ancillary fields of training are statistics and the scientific study of so-called commercial subjects. Statistical method and economic method are pretty certainly destined to have more and more in common. Already statistics is the point of contact between the subject-matter of the social sciences and the newer logic which deals with quantities rather than with kinds, and with continuous variations rather than with fixed classes and categories. On the other hand, such a commercial subject as accounting is an incipient science of business working on much the same problems as formal economics, stated in much the same pecuniary terms, motivated by much the same concern for material gain, and thus far, to a significant degree, independently breaking its own way. Such a latter-day parallel must have its lessons for the academic economist.

But it is not necessary to go outside of economics in order to escape, at the start, the strait-jacket of conventionalized theory. It should be made possible to begin by exploring some part of the range of economic phenomena under the guidance of a teacher so completely a master of theory that he perceives it in its concrete manifestations. There should be much encouragement to thinking; little didactic supply of thought ready-made and stale. Then, if the student is competent, his own beginnings of economic theory will grow with his grasp of the widening field of inquiry. As his theoretical scheme expands and takes form, it can be put to the test of adjusting itself both to new information and to the theoretical systems of others. Once the student's own ideas have attained to some definiteness and organization the thorough study of economic doctrines offers stimulating contrasts; it can then be made critical, comparative, and altogether profitable. Before that stage of his career it might simply occupy his mental void and thenceforward obstruct any more spontaneous development.

This order of progress is at once most feasible and most appropriate in graduate study, where the emphasis is laid upon originality and constructive achievement. The graduate student will usually already have had quite enough didactic theory, as collegiate work goes nowadays. He will in most cases have an aptitude for his special work. He must have able teachers; but, granting him this essential, he should recognize theoretical implications in whatever he investigates. Economic truth need not be authentically revealed to him on his initiation to graduate standing. Gradually, and conformably with his own powers of reasoning, it will reveal itself.

The purport of these rather scattering paragraphs may be recapitulated in a few words. We err in thinking of economic theory as too much a thing apart. We are thereby led to the further error of trying to justify a theory remote from ordinary experience on grounds of traditional authority. We must rather seek to realize the theoretical significance inherent in systematized concrete facts—to let theory express itself in scientific law and orderly method of investigation. The proper place for theory thus conceived is not only in every graduate course but in the whole range of economic scholarship.

XIV

SOME ADVANTAGES OF THE LOGARITHMIC SCALE IN STATISTICAL DIAGRAMS[1]

Statisticians have long been aware that for some purposes of analysis and graphic representation the logarithmic scale has special advantages which the ordinary natural scale does not offer. But with that awareness they have mostly rested content. Comparatively few have worked with the logarithmic method and really come to know it in its applications. The logarithmic scale, it has been assumed, would be unintelligible save to experts. Because of its unfamiliarity it has been neglected; through neglect it remains unfamiliar, and thus a serviceable statistical tool lies virtually idle.

It is the thesis of this article that the logarithmic scale is too useful as a statistical auxiliary to be disregarded simply because it is not yet generally understood; and, further, that the best way to secure for it a more general understanding and appreciation is to use it intelligently at every appropriate opportunity. This is not by any means to say that the logarithmic scale should prevailingly replace the natural scale in ordinary graphic work. Often however, where only one method is to be followed, the logarithmic construction is clearly superior. Even if such occasions are as yet comparatively infrequent, it is still true that figures drawn to the logarithmic scale will usually afford an informing contrast and supplement to diagrams in the more conventional form.

[1] Reprinted from the *Journal of Political Economy*, Vol. XXV, No. 8 (October, 1917).

For demonstrating the characteristics of logarithmic diagrams such a contrast is quite the most promising plan. Mr. Bowley, in his brief but excellent discussion of logarithmic diagrams,[2] has recommended this procedure. "It would be useful," he remarks, "to offer several diagrams on both scales; for in many series of figures the differences exhibited by the two methods are very instructive." Mr. Bowley felt himself constrained by the limits of space to forego acting upon his own proposal, but the suggestion was good. In the following pages space is deliberately devoted to a comparative display of diagrams of the two kinds. The primary intention is to exemplify, not to innovate. There is no pretense of any important originality. The purpose of the article is simply to make logarithmic diagrams a little less unfamiliar, and to let them speak for themselves on the basis of better acquaintance.[3]

The graphic method in statistics is primarily a device for presenting vividly the significant relations of phenomena. Each slope of a curve in an ordinary two-dimension statistical diagram is the visible expression of some relationship. If the purpose of a particular statistical presentation is simply an accurate recording of separate details, a diagram is, of course, a poor substitute for plain numerical statements; but when the rela-

[2] *Elements of Statistics*, pp. 188 ff.

[3] This article was substantially completed some months before the appearance (in the *Publications of the American Statistical Association*, June, 1917) of Professor Irving Fisher's ingenious demonstrations of the "Ratio Chart," which it unfortunately overlaps. It had itself been proposed as a contribution to the *Publications* two years ago; but at that time the editor of the *Publications* was not prepared to reproduce the requisite number of diagrams.

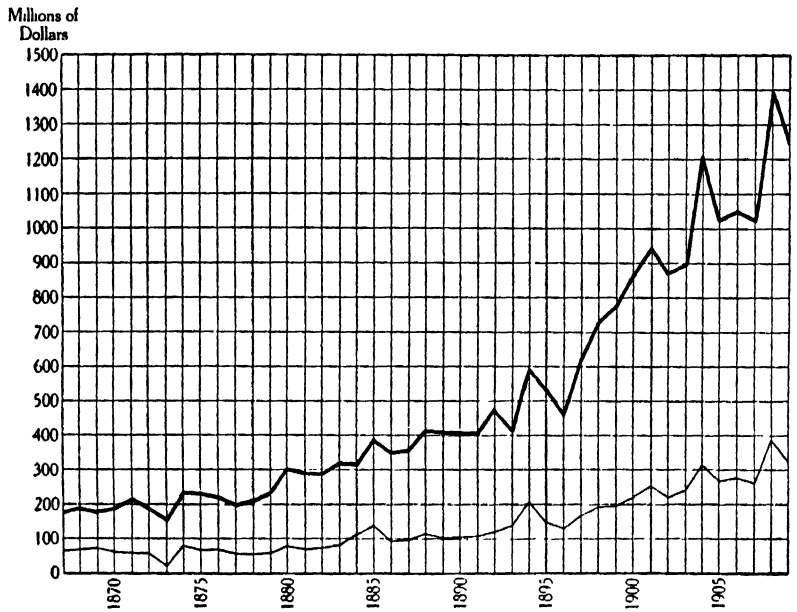
tive aspects of the data are to be emphasized the diagram comes into its own.

And yet, even within this sphere of its special excellence, graphic representation, in terms of the common,

DIAGRAM I.—NET DEPOSITS (HEAVY LINE) AND RESERVES (LIGHT LINE) OF THE CLEARING-HOUSE BANKS OF NEW YORK CITY, ACCORDING TO THE 41ST WEEKLY REPORT (EARLY OCTOBER) IN EACH YEAR, 1867–1909

Natural Scale

Data (except for the year 1888) from *Statistics for the United States, 1867–1909*, compiled for the National Monetary Commission by A. Piatt Andrew



natural scale of uniform intervals, has very real limitations. Too frequently, though the problem is simple and the diagram is well done, the eye will fail to detect the precise nature of the relationship which the statistician seeks to present.

Some of the shortcomings of natural-scale representation are fairly illustrated by Diagram I. The upper and

lower curves[4] of this figure show, respectively, the net deposits and the reserves of the New York Clearing-House banks in early October of each year from 1867 to 1909, inclusive. From the diagram in this form certain facts are indeed sufficiently clear. Both deposits and reserves increased markedly during the period under review. The increase of each, though on the whole progressive, has been subject to appreciable fluctuations; and the fluctuations of one curve are associated with synchronous and apparently similar fluctuations of the other. The amount of deposits or of reserves in the early days of any particular October may be estimated by consulting the scale at the side of the diagram. The amount of increase or decrease of either item during a given year or term of years is not difficult to determine approxi-

[4] The term "curve," it must be noted, is used here in a loose sense. The data upon which Diagram I is based define only the points where the so-called curves cut the successive vertical ordinates. The straight lines connecting these points are quite arbitrary and do not at all necessarily represent actual intervening values of the phenomena plotted. They serve merely to link the given points together in such a way as roughly to suggest the general trend of increase or decrease during the interval between the recorded observations.

In some instances such arbitrary straight lines closely approximate the curve which would result if observations were made and plotted at very short intervals. This is probably the case in Diagram V. But in Diagram I the straight-line method of construction ignores the existence of a more or less characteristic annual cycle in the movement of bank deposits and reserves. In such cases as Diagram XV the method is almost wholly anomalous, since there the total tin production of an entire year is plotted at each ordinate, and any curve between the ordinates is therefore imaginary.

The construction of diagrams like Diagram I or Diagram XV is obviously inexact; but it follows a statistical tradition which unfortunately is almost rigidly established. From this tradition it has not seemed expedient to depart in the present article, lest the raising of a secondary issue should distract attention from the primary theme. It may be remarked, however, that the arbitrary straight line between two points has not in strictness the same meaning in a logarithmic diagram that it has in a diagram drawn to natural scale.

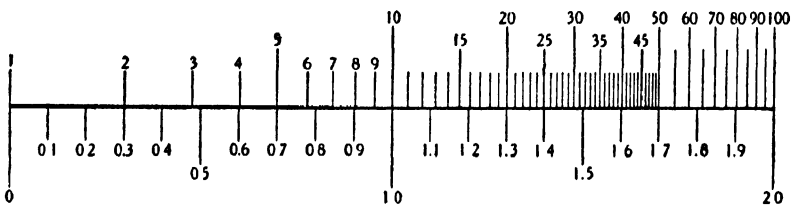
mately. All this information, then, the ordinary scale gives adequately. Some of it would be less satisfactorily given by any other scale. But if we press our inquiries further and ask, on the basis of these early October statements, whether, for example, the expansion of deposits was *relatively* greater in the year after the crisis of 1907 than in the year after the crisis of 1873, or whether the contraction of deposits was relatively greater before 1873 than before 1896; if we try to compare the percentages of reserve held in the years before 1870 with the corresponding figures since 1895; or if we wish to know specifically what was the percentage of reserve in early October of 1905, deficiencies of the natural scale are revealed. None of these questions, which concern relations rather than detached facts, is satisfactorily answered by the diagram. If answers are forthcoming at all, it is only because, through the scales, one may roughly and inconveniently recover the numerical data from which the diagram was made. This, however, could have been more easily accomplished by ignoring the diagram altogether and consulting its data in the form of a table.

It is practicable, of course, to contrive a diagram, drawn to a natural scale, with the special purpose of bringing out some one fact or relation which in Diagram I has remained obscure. Thus the percentage of reserve of the New York banks could be plotted, year after year, as a separate curve. This curve, however, would in turn fail to show the absolute amounts of reserves and deposits. The difficulty is to devise a form of representation which shall show, directly and graphically, both relative and absolute magnitudes. A complete solution of this problem is hardly attainable, but logarithmic

diagrams in certain cases go far toward meeting the want where the relative aspects of the phenomena are primarily to be emphasized.

The logarithmic scale may indeed be described as a scale of ratios. On it absolute distances measure relative magnitudes. The numbers which occur at equal intervals along a logarithmic scale thus form not an arithmetic but a geometric progression; and consequently the same proportionate relation exists between any two numbers a given distance apart on a given logarithmic scale, regardless of their absolute magnitudes and regardless

DIAGRAM II.—THE LOGARITHMIC SCALE FROM 1 TO 100



of their absolute differences. Conversely, the numbers 2 and 4 on a logarithmic scale are separated by the same distance as the numbers 500,000 and 1,000,000, for the simple and decisive reason that the larger number of each pair is double the smaller number.

The mathematical principle of the scale is suggested by Diagram II. Here the graduations above the horizontal line mark off the intervals of a logarithmic scale from 1 to 100. The feature of this scale which at once strikes the eye rather bewilderingly is that the interval between successive numbers is not constant, but progressively narrows as the numbers grow larger. Closer scrutiny reveals the more significant and clarifying fact that the interval is constant between numbers which

bear to each other a given ratio. Thus 1, 2, 4, 8, 16, 32 stand at equal distances apart; as do 1, 3, 9, 27, or 1, 5, 25, or 1, 10, 100. The uniform interval which separates the numbers of this last-named series—successive powers of 10—has been taken as the unit upon which is based the ordinary scale below the horizontal in the diagram. If, now, any number on the upper scale be regarded as a power of 10, it will be found that the corresponding reading of the lower scale gives the index of that power. This relation holds invariably; for not only do we find 10 (i.e., 10^1) opposite 1, 100 (i.e., 10^2) opposite 2, and 1 (i.e., 10^0) opposite 0, but the square root of 10 (i.e., $10^{\frac{1}{2}}$, or 3.1623) is opposite 0.5; the square root of 1000 (i.e., $10^{\frac{3}{2}}$, or 31.623) is opposite 1.5—and so on indefinitely, whatever the index of the power. In fact, the number at any point of the lower scale is the common logarithm of the number at the same point of the upper scale.[5]

[5] The system of logarithms which is in ordinary use expresses any given number as a certain power of 10. The logarithm of the given number indicates what power of 10 that number is. Thus the logarithm of 10 is 1; the logarithm of 100—i.e., of 10×10, or 10^2—is 2; the logarithm of 1000, or 10^3, is 3, and so on. A logarithm is in fact an exponent—the index of a power—and the derivation and uses of logarithms consequently follow the algebraic rules of exponents. In the case of a number which is not an even power of 10 it is possible to compute the logarithm in the form of a fractional exponent. For example, as the text implies, the logarithm of 31.623, the square root of 1000—i.e., $\sqrt{10^3}$ or $10^{\frac{3}{2}}$—is 1.50. By extending the principle of fractional exponents the logarithm of any assignable number may be approximately expressed.

The peculiar advantage of the logarithmic scale in statistical work is a consequence of the elementary logarithmic principle that the difference between the logarithms of two numbers is the logarithm of the ratio of the one number to the other. That is,

$$\log a - \log b = \log \frac{a}{b}.$$

If, now, it is desired to use the logarithmic scale in the construction of a statistical diagram, we may proceed in either of two ways. We may reduce the data to logarithmic terms, and then, using an ordinary natural scale, plot the logarithms of the given quantities instead of the quantities themselves. Or if we have at our disposal co-ordinate paper ruled at logarithmic intervals, like the intervals of the upper scale of Diagram II, we may work directly, without any reduction of the data, locating the points of the diagram quite mechanically by the graduations of the paper, and relying upon these graduations for the logarithmic character of the result.[6] The two methods are entirely equivalent, as should be evident from Diagram II. Indeed it is often convenient to regard a diagram as constructed by both methods, and to supply for its more complete explanation a log-

---

Hence, whenever the ratio between two numbers a and b is the same as the ratio between two other numbers p and q, so that $\frac{a}{b}=\frac{p}{q}$, and $\log\frac{a}{b}=\log\frac{p}{q}$, it will follow that $\log a-\log b=\log p-\log q$. Plotted to a given natural scale, $\log a$ and $\log b$ would thus differ by the same interval as $\log p$ and $\log q$—the equality of these differences indicating the equality of the ratios $\frac{a}{b}$ and $\frac{p}{q}$. The device of plotting statistical quantities in terms of their logarithms is, then, simply an exploiting of the general principle that the absolute difference between two logarithms is a measure of the relative difference of the numbers to which they correspond.

[6] For an instance of tolerably elaborate logarithmic graduation see Diagram XII, on p. 828.

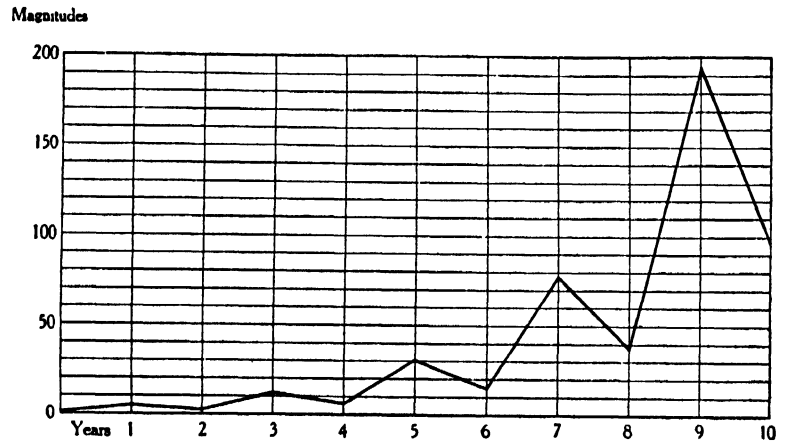
Suitable logarithmic co-ordinate paper is unfortunately not easily secured. Such logarithmic papers as are available are mostly designed for the use of engineers and are for one reason or another hardly satisfactory for general statistical use. The logarithmic diagrams which accompany this article have in the main been drawn on paper specially engraved for the statistical laboratory of the University of Chicago.

arithmic scale of the natural numbers on one side, and a natural scale of their logarithms on the other.[7]

Before attempting a logarithmic presentation of the bank data of Diagram I, it will be well to consider, in artificially simplified cases, certain general properties of logarithmic diagrams which furnish the key to their interpretation.

DIAGRAM III.—ARBITRARY EXAMPLE OF A PHENOMENON INCREASING BY EQUAL RELATIVE OSCILLATIONS

Natural Scale



Let us take for our first illustration the arbitrary example of Diagram III. Here an assumed phenomenon, which has a magnitude of 1 when it is first observed, increases to 5 in the course of a year and then, in the second year, falls off to $2\frac{1}{2}$. In the third year it again increases fivefold, to $12\frac{1}{2}$. In the fourth year it again declines by half, to $6\frac{1}{4}$. Thus alternately quintupled and cut in two, the phenomenon grows by perfectly regular oscillations. Diagram III, which is drawn to an ordinary

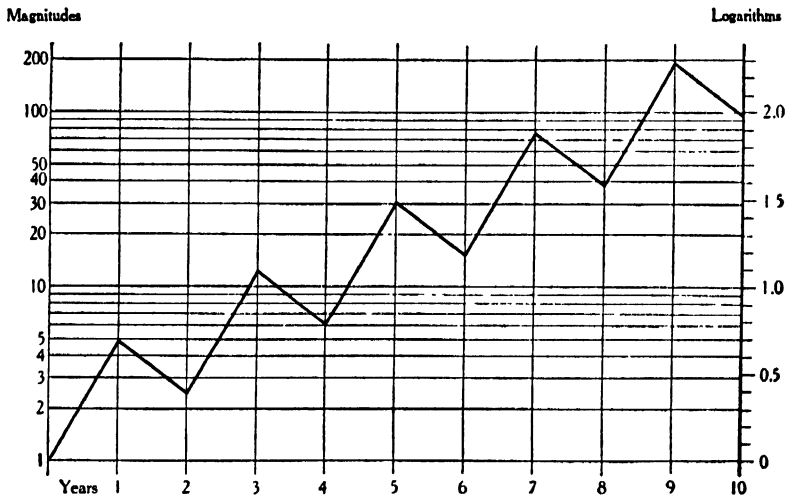
[7] For an example of this treatment see Diagram IV on p. 353.

natural scale, shows vividly the accelerated character of this increase, stated in absolute numbers; but precisely because it is a natural-scale diagram it fails to show at all obviously that the rate of relative rise and fall is the same for all the oscillations. The earlier waves of the

DIAGRAM IV.—ARBITRARY EXAMPLE OF A PHENOMENON INCREASING BY EQUAL RELATIVE OSCILLATIONS

Logarithmic Vertical Scale

Data of Diagram III



curve, which are absolutely small, are made to seem in all respects comparatively insignificant.

Strikingly different is the effect of Diagram IV, in which the data of Diagram III are plotted to a logarithmic scale. Absolute magnitudes here can be determined only from the numbers of the scale: the graphic evidence of the diagram establishes the identity of the relative changes, step by step, for the whole serrate curve. Every ascent has the same vertical rise. That is, the indicated percentages of increase are uniform. Each de-

cline has the same drop: the percentage of decrease shown by each is the same. This equal relative significance of equal absolute distances is the essential characteristic of the logarithmic scale.

Certain fairly obvious but important corollaries follow from this fundamental principle. Since the upstrokes of the curve in Diagram IV are all straight lines rising by the same amount, and since each rise, occurring in the same period of time, is allotted in the diagram the same horizontal distance, it follows that the slope of the several upstrokes is the same. The downstrokes are similarly all of the same slope. Quite generally, where a curve is drawn to a logarithmic vertical scale and a natural horizontal scale,[8] equal slopes indicate equal rates of relative change. By extension of this rule it will be seen that a constant rate of increase is represented in a logarithmic curve by a constant slope—i.e., by a straight line; and that wherever in such a logarithmic diagram two curves run parallel, in the sense that the vertical distance between them remains unaltered,[9] the phenomena which they respectively represent maintain

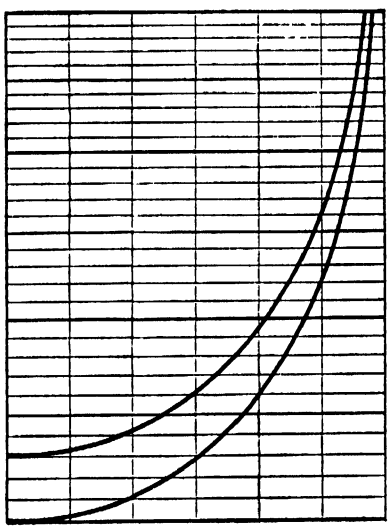
[8] The rules here stated also apply, *mutatis mutandis*, to diagrams in which the horizontal scale is logarithmic and the vertical scale an ordinary scale. Such constructions are, however, unusual. Cf. below, pp. 376 ff.

[9] This qualification is necessary when the curves in question are not straight lines. Similar arcs of two concentric circles, for example, although in a sense parallel (i.e., equidistant at all points in terms of the normals to the curves), would not, in an ordinary logarithmic diagram, imply a constant ratio between the quantities plotted. On the other hand, curves which are parallel in the sense of the text, and which do therefore indicate a constant ratio between two variables, may not be parallel in appearance. This difficulty, illustrated by the accompanying figure (p. 355), suggests that the effectiveness of logarithmic diagrams, when they are designed to test the proportionality of the data plotted, is much impaired if the contrasted curves are far from straight.

to each other a constant ratio, inasmuch as any change of the one is evidently coincident with a change of the other to the same relative extent.

These generalizations may be simply illustrated by the examples which follow.

In Diagram V, drawn to natural scale, the continuous curve traces the growth of the population of the United States, according to the decennial enumerations of the United States Census,[10] from 1790 to 1910, inclusive. The broken line, uppermost in the diagram, shows what the growth of population would have been if the rate of relative increase observed between 1790 and 1800—35.1 per cent for the decade—had persisted without change since that time. The dotted line at the bottom of the figure shows what the growth would have been if the absolute increase of population in each decade since 1800 had been the same as the increase—1,379,269 persons—from 1790 to 1800. In other words, these two additional curves represent respectively geometric and arithmetic progressions based on the observed increase in the first intercensal period. It is to be noted that in a natural-



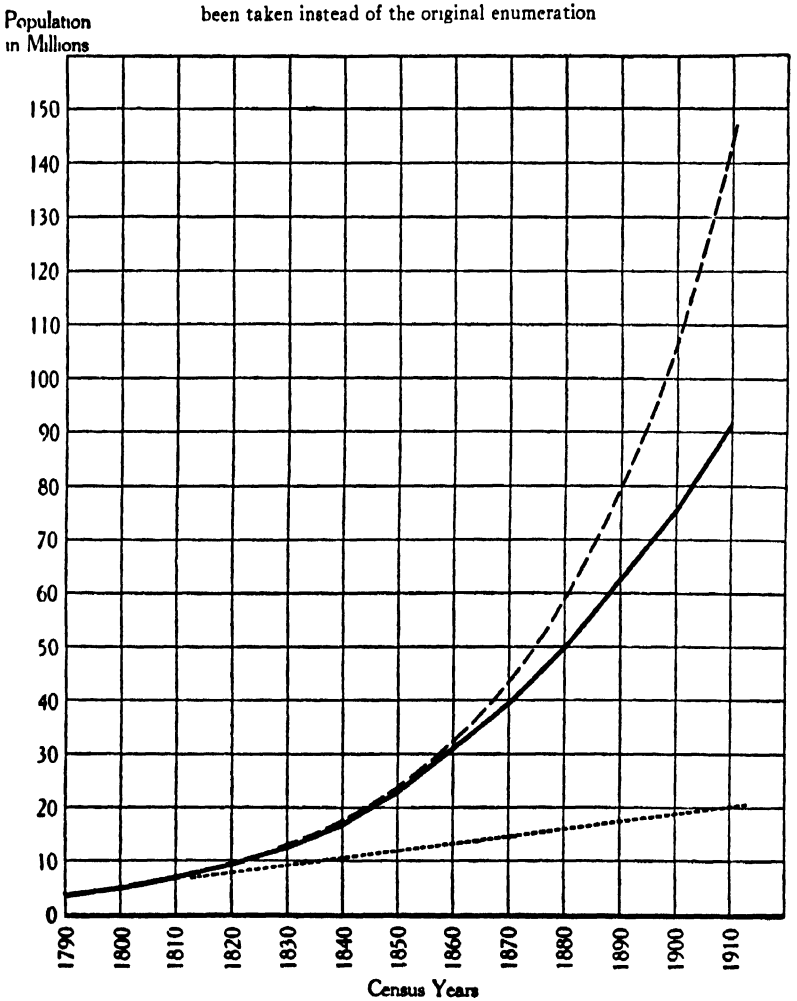
[10] For the population in 1870 the revised estimate of 39.8 millions has been accepted in preference to the original enumeration of 38.6 millions. (Cf. *Eleventh Census*, "Population," Part I, pp. xi, xii.) No attempt has been made to indicate in the diagram the fact that not all intercensal intervals have been of precisely ten years.

DIAGRAM V.—GROWTH OF THE POPULATION OF THE UNITED STATES, 1790–1910

The continuous line shows the actual increase according to the census returns. The broken and dotted lines show the growth which would have taken place if relative and absolute increase, respectively, had continued at the rate of the first decade.

Natural Scale

Data from 13th Census of the United States, I, 24. The corrected estimate for 1870 has been taken instead of the original enumeration

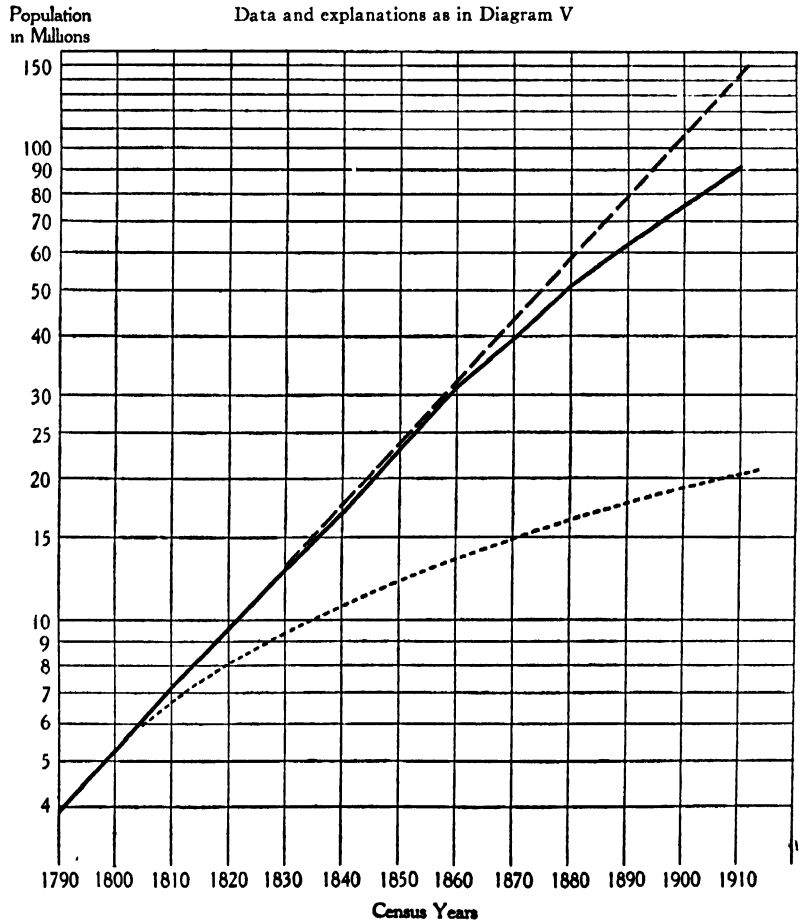


scale construction the curve of arithmetic progression is a straight line.

DIAGRAM VI.—GROWTH OF THE POPULATION OF THE UNITED STATES, 1790–1910

Logarithmic Vertical Scale

Data and explanations as in Diagram V



In Diagram VI, drawn to a logarithmic scale, the continuous line, the broken line, and the dotted line represent each the same data as in Diagram V. But here the

character of the curves is significantly different. The dotted arithmetic-progression curve, recording a constantly diminishing ratio of increase, falls away in this figure more and more toward the horizontal. And here it is the geometric progression which appears as a straight line, its constant slope denoting a constant rate of increase—i.e., the same relative increase in every equal period of time.

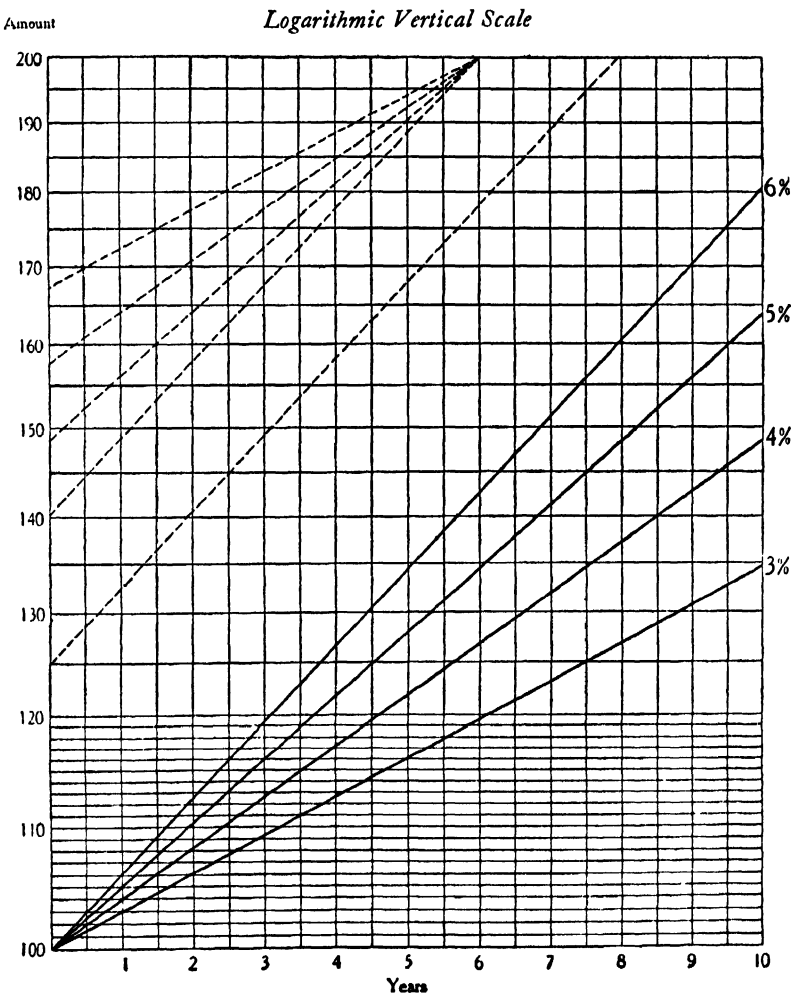
The growth of funds invested at compound interest affords another instance of geometric increase and therefore another example of a straight-line curve if a diagram is drawn to a logarithmic scale. The slope of the curve here depends upon the rate of interest and the interval between dates at which the interest is regularly compounded; but for a given rate and interval it is fixed and constant. Hence a logarithmic chart equivalent to a compound-interest table may very readily be constructed. Diagram VII is such a chart. In it a single straight line suffices to indicate the amount to which an initial sum of $100, compounded semiannually at a given rate, will have increased on any compounding date included in the diagram.[11] The 4 per cent line is steeper than the 3 per cent line; the 5 and 6 per cent lines are successively steeper still; but all are straight, and for each, when the scales of the diagram are once determined, the slope is fixed and characteristic.

The same diagram serves also to illustrate another property of logarithmic diagrams that has already been mentioned. The broken line across the middle of the figure has been drawn to show the increase of $125, com-

[11] The period of time covered by such a chart is of course in principle unlimited, for the lines will continue with their same specific slopes however far the diagram may be extended.

pounded semiannually at 6 per cent. It is at once apparent that this line parallels the continuous line of the

DIAGRAM VII.—COMPOUND-INTEREST CHART (SEMIANNUAL COMPOUNDING)



increase of $100 at the same rate. The reason for the parallelism is tolerably patent. Each of the sums, $100 and $125, increases every six months by 3 per cent of its

accumulated amount. That is, each sum is semiannually multiplied by 1.03. In the diagram, therefore, each of the two lines must rise, from one ordinate to the next, by the fixed vertical distance which, on the logarithmic scale, corresponds to the ratio 1.03 : 1.00. This, of course, insures that both rise alike. Or it may rather be argued that since original sums in the proportion of 1.25 to 1 are here assumed to be compounded at the same rate and the same interval, the cumulative results will be at any subsequent time in the same proportion of 1.25 to 1. The vertical distance between the two curves on any ordinate must therefore express the ratio 1.25 : 1.00, and hence, since a given ratio always corresponds to the same absolute interval on a logarithmic scale, the curves must be always at the same distance apart and therefore parallel. It follows that if a point be taken on the initial ordinate of this diagram, opposite the value $125 of the vertical scale, the straight line drawn through that point parallel to the original 6 per cent curve will represent the compound increase of $125 at 6 per cent. Similarly, to find the increase of any capital sum at any rate of compound interest, one has only to draw a straight line starting at the height which denotes the given sum and running parallel to a standard curve for the given rate of interest. In Diagram VII this principle has a somewhat different application. Through the point representing a sum of $200 at the end of 6 years have been drawn broken lines parallel to the standard curves showing respectively 3 per cent, 4 per cent, 5 per cent, and 6 per cent increase. These several broken lines cut the initial ordinate at heights which, read in terms of the vertical scale, show what amount of money, compounded semiannually at each respective rate of interest, would amount to $200 after 6 years.

If logarithmic diagrams thus simply indicate the results of compound interest, they will with equal simplicity lend themselves to the elucidation of problems of depreciation when it is assumed that annual depreciation is a fixed percentage of the residual value of the asset at the beginning of the year. Depreciation thus defined is "straight-line" depreciation according to the logarithmic scale, just as depreciation by equal annual deductions is "straight-line" depreciation in the terminology of natural-scale graphics.

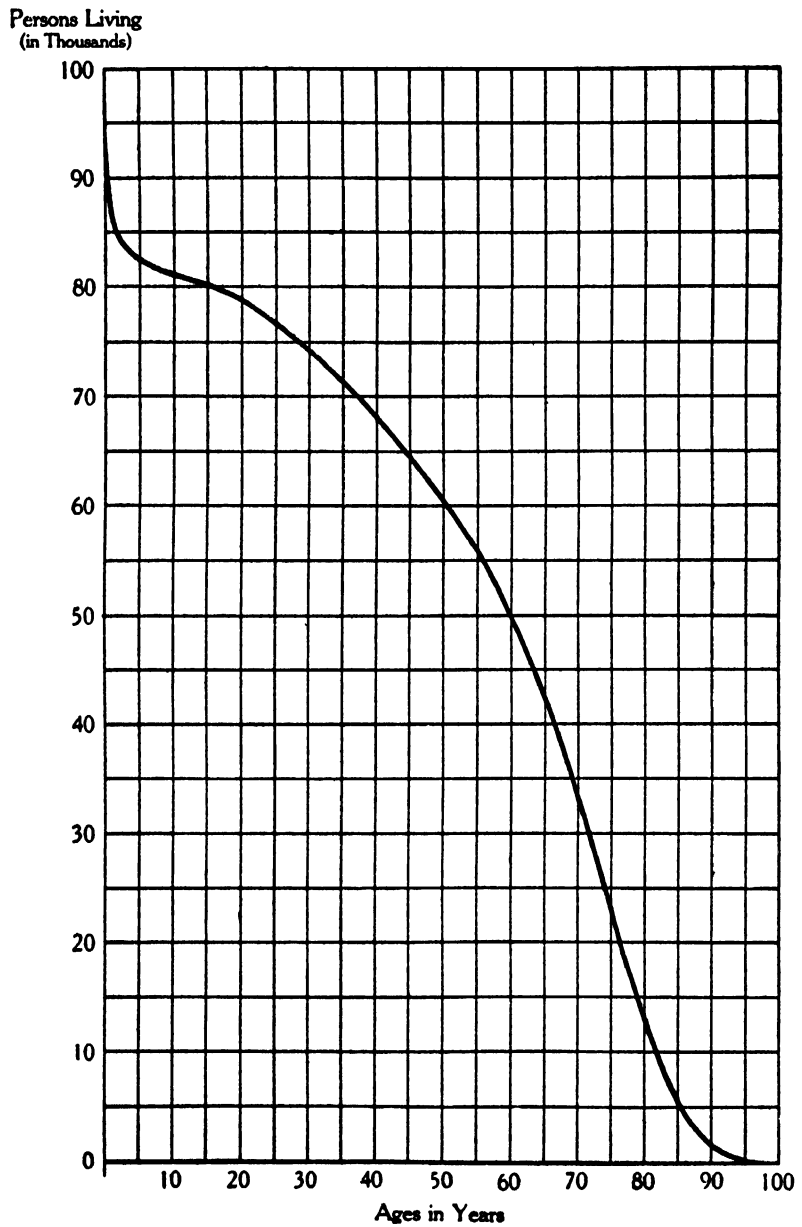
In principle the logarithmic method would serve as well to interpret observed facts of depreciation as to apply the fixed-percentage hypothesis. If the facts could be plotted in logarithmic charts the slopes of the curves would disclose the real rates of depreciation. Since, however, the treatment of depreciation in accounting is usually based on more or less arbitrary assumptions rather than on actual appraisals, it will probably be more interesting in the present connection to consider a somewhat analogous case where data are available.

Diagrams VIII and IX present in graphic form data from the "Life-Table for Native White Males in the Original Registration States," computed under the direction of Professor Glover by the Bureau of the Census. The height of the curve at any ordinate in these figures shows how many of 100,000 born survive to the specified age. The drop of the curve from one age to the next thus reveals the mortality between the two ages. But the sense in which these slopes indicate mortality is quite different from the two diagrams. In the natural-scale diagram (Diagram VIII) the descent of the curve expresses the number of deaths in a year among the survivors to a given age. This is not the usual way of stat-

DIAGRAM VIII.—MORTALITY AND SURVIVAL OF NATIVE WHITE MALES IN THE ORIGINAL REGISTRATION STATES OF THE UNITED STATES, 1910

Natural Scale

Data from *United States Life Tables, 1910*, pp. 30–31



ing death-rates; nor is it a convenient method, since the absolute number of deaths is a joint resultant of two factors which might better be considered separately—the probability of death at the specified age, and the number of persons at that age and subject to that hazard. We are ordinarily more concerned with the probability alone, or, which is much the same thing, with the proportion of those persons of given age who die in the course of a year. Precisely this relative mortality rate determines the slope of the curve in the logarithmic figure (Diagram IX), for here, as always, a given distance on the logarithmic scale denotes a certain proportion of change. Hence the more steeply the logarithmic curve descends, the higher is the relative mortality which it indicates. Hence, too, it is possible to provide a key to the diagram in the form of standard sample slopes and corresponding numerical death-rates, which hold true for all parts of the curve. With their aid, even in so small a figure, it can be shown that the high rate of mortality prevailing in the first year of life, taken as a whole,[12] is exceeded by the mortality of men over eighty—a fact which would remain doubtful in Diagram VIII, where the effect of the infant mortality rate is exaggerated because of the great number of individuals under consideration, and where, on account of the attenuated population at advanced ages, even the extreme mortality of the very old results in absolutely few deaths and thus in a comparatively inconspicuous descent of the curve.

[12] The mortality of the first month or two is, of course, relatively much higher than the mortality of the first year as a whole. To this fact is due the marked concavity of the curve at the outset. A diagonal straight line, substituted for the curve from age 0 to age 1, would by its slope show the first-year mortality referred to in the text.

DIAGRAM IX.—MORTALITY AND SURVIVAL OF NATIVE WHITE MALES IN THE ORIGINAL REGISTRATION STATES OF THE UNITED STATES, 1910

Logarithmic Vertical Scale

Data of Diagram VIII

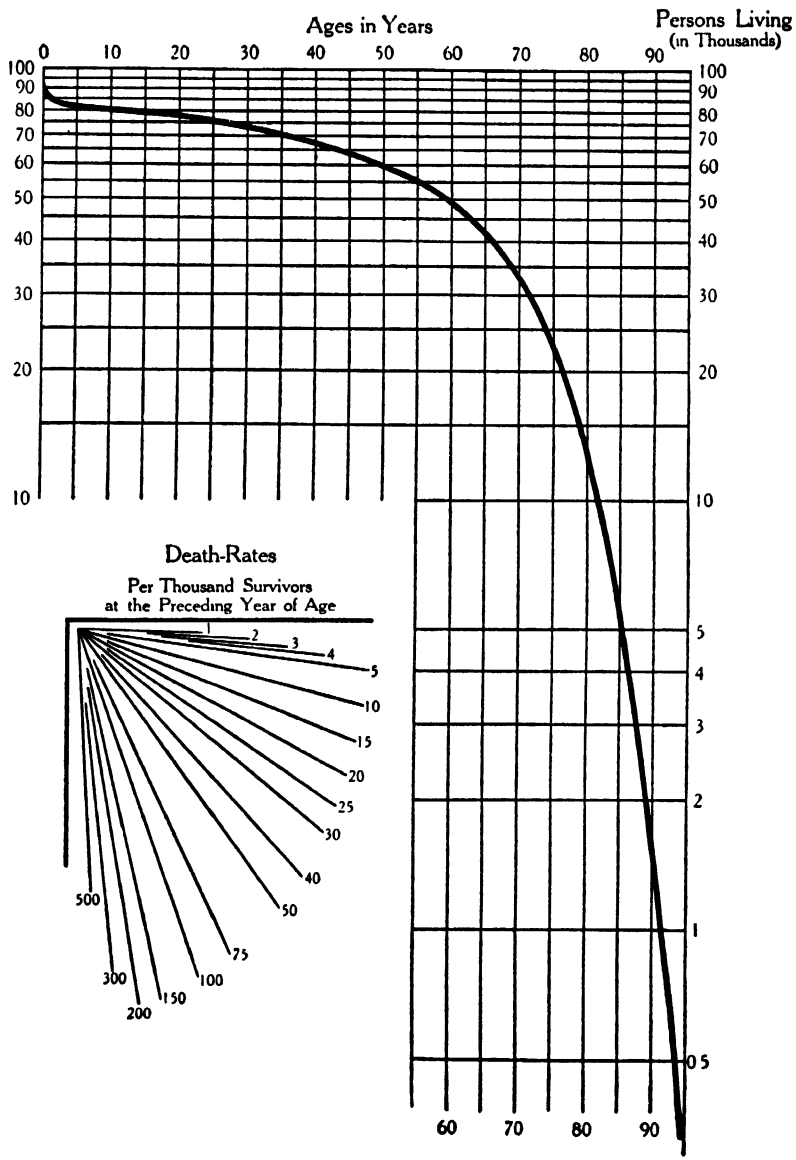


Diagram IX incidentally reveals a characteristic of logarithmic diagrams which the previous figures have not brought out. The descending curve is arbitrarily cut off at age 95, leaving 330 survivors of the original 100,000. To continue the curve to age 100, thereby accounting for all but 27 survivors, would necessitate prolonging the vertical dimension of the diagram by nearly one-half, for the relative reduction of the number of survivors is rather more in the five years from 95 to 100 than in the first eighty-three years of life. To carry the curve to the point where no one survives is impossible. The logarithmic scale has no zero. Extending a logarithmic scale to zero is equivalent to reducing a finite number to zero by successive divisions, and neither task can be accomplished short of infinity. The impossibility of completing the logarithmic representation of a life-table is of identical nature with the impossibility of completely amortizing an original sum by writing off each year a fixed proportion of the remaining amount. Either process can be carried on until the residual value, or the number of survivors, as the case may be, is reduced to any assigned quantity greater than zero; but neither can be continued to the point of extinction.[13]

Since logarithmic scales have no zero, logarithmic diagrams can have no base-line at zero. Indeed, they have no base-line at all; or, rather, every value of the logarithmic scale is as much a base-value as any other. This follows from the cardinal principle already repeatedly stated, that the same absolute interval stands for the same ratio of magnitudes at any and every part of a given logarithmic scale. It obviously constitutes an

[13] This same principle is brought out in another way by Diagram XX and the discussion on pp. 381–83.

essential distinction between logarithmic and natural-scale diagrams. In a natural-scale diagram the importance of showing the base-line at zero of the vertical scale can hardly be urged too strongly. If this base-line be omitted, as it often is in unintelligent work, proper visual estimation of relative magnitudes is made impossible. Such omissions in complex natural-scale diagrams involving more than one base-line lead to extreme confusion and fallacy. In logarithmic diagrams fallacious effects of this particular sort are impossible; but any suggestion of a specific base-line may prove disconcerting to those unfamiliar with the logarithmic scale and may cause misconception of its character.[14]

The principles which have thus far been developed may now be recapitulated:

Throughout a given diagram, and regardless of the absolute magnitudes concerned:

(1) a given distance between any two points, measured along a logarithmic scale, indicates in every case the same ratio between the two magnitudes which the positions of the points represent;

(2) when changing magnitudes are plotted to a vertical logarithmic scale, and unit intervals of time are plotted to a horizontal natural scale,

[14] For this reason Mr. Willard C. Brinton (cf. *Graphic Methods for Presenting Facts*, p. 362) and the Joint Committee on Standards for Graphic Presentation seem ill-advised in proposing that the bottom line and the top line of every logarithmic chart should mark some power of 10 on the logarithmic scale. Mr. Bowley's authority (*Elements of Statistics*, p. 190) and the logic of the method are both against them. If for any reason it is felt to be important that the logarithmic scale should start with a power of 10, that objective may be attained, as in Diagram X, p. 368, without the necessity of a base-line. But in all logarithmic diagrams the absolute numbers of the scale are quite subordinate in importance, and should not be emphasized in such a way as to mask the essential properties of the scale as a measure of relations.

(*a*) the slope of a curve is always an index of the rate of relative change;

(*b*) a straight line represents a constant rate of relative change; and, conversely, a constant rate of relative change is always represented by a straight line;

(*c*) where the vertical distance between two curves is constant the variables which they respectively represent maintain always the same proportion one to the other; and, conversely, two variables constantly in the same proportion are always represented by two curves at a fixed vertical interval.

The logarithmic scale admits of no zero, and in terms of a logarithmic scale no base-line should ordinarily be indicated.

With these general principles in mind we may now consider Diagram X, in which the bank statistics of Diagram I are plotted to a logarithmic scale. The questions which Diagram I failed to answer[15] find here a ready solution, and incidentally illustrate certain useful devices for the interpretation of logarithmic diagrams in general.

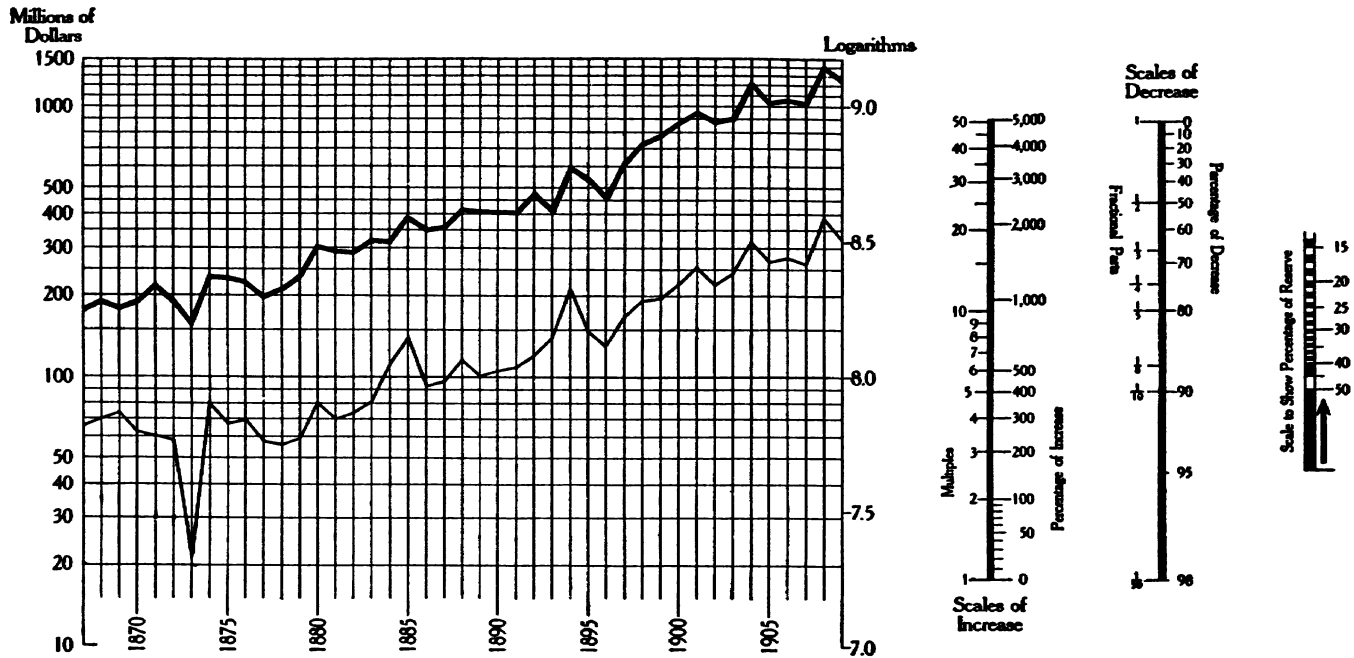
The relative expansion of deposits, evidenced by the absolute rise of the upper curve in Diagram X, was plainly greater in the year following October, 1873, than in the year following October, 1907. How great it was in either year may be determined with the aid of the percentage scale of increase at the right of the main figure. This scale, it is to be noted, holds good for vertical measurements at all parts of the diagram, since its

[15] Cf. pp. 346–49, above.

DIAGRAM X.—NET DEPOSITS (HEAVY LINE) AND RESERVES (LIGHT LINE) OF THE CLEARING-HOUSE BANKS OF NEW YORK CITY, ACCORDING TO THE 41ST WEEKLY REPORT (EARLY OCTOBER) IN EACH YEAR, 1867–1909

Logarithmic Vertical Scale

Data of Diagram I



logarithmic intervals make it a scale of ratios, quite independent of absolute magnitudes. The vertical rise of the deposit curve following 1873 shows by the scale an increase of approximately 50 per cent. The rise after 1907, similarly measured, is some 38 per cent.

Relative decreases of deposits can be tested in a manner quite analogous by the logarithmic scale of percentage decrease. Here, for convenience, the scale reads from the top downward, rather than up from the bottom, as in the scale of increase. The contraction of deposits from October, 1871, to October, 1873, as measured by the decrease scale, was about 27 per cent—appreciably greater than the contraction of some 22 per cent during the two years preceding October, 1896.

The proportion of reserve to deposits at any given date is obviously to be determined from Diagram X by measuring the appropriate vertical distance between the reserve curve and the deposit curve. For this purpose one might use the scales designed to measure increase and decrease. Thus, in October, 1905, deposits were not quite four times as great as reserves, according to the multiple scale. Interpreted by the scales of decrease, reserves were equivalent to slightly more than a quarter of the deposits, or were some 74 per cent less than the deposits. None of these statements, however, expresses reserves in the conventional way as a percentage of deposits. For convenience, therefore, a special inverse logarithmic scale is provided at the extreme right of the figure.[16] If a given vertical interval between the reserve curve and the deposit curve is laid off on this scale, from

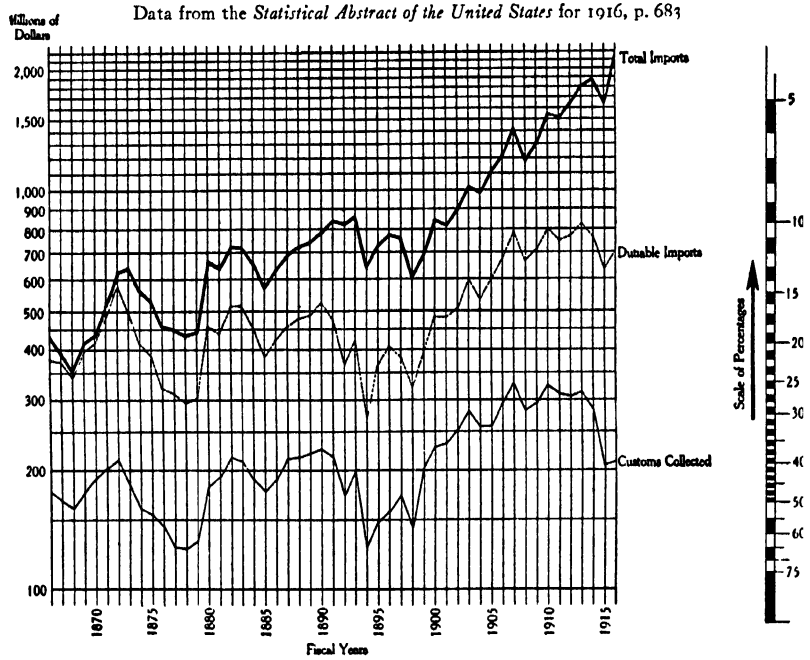
[16] This scale is, of course, simply a scale of the reciprocals of the numbers which would appear at the corresponding points on the logarithmic scale of multiples.

the bottom upward, the reading of the inverse scale states the reserve directly as a percentage of deposits. In October, 1905, it thus appears that the reserve stood at 26 per cent. The rough parallelism of the two curves

DIAGRAM XI.—TOTAL MERCHANDISE IMPORTS, DUTIABLE MERCHANDISE IMPORTS, AND CUSTOMS COLLECTED, FOR THE UNITED STATES, IN EACH FISCAL YEAR, 1866–1916

Logarithmic Vertical Scale

Data from the *Statistical Abstract of the United States* for 1916, p. 683



throughout their whole course shows that the percentage of reserve has not greatly changed. Nevertheless, it is tolerably clear that the reserves held in early October were rather larger before 1870 than since 1895; for in the former period the curves are nearer together. The last of the questions which Diagram I left unsettled thus finds its answer in Diagram X.

The inverse percentage scale introduced in Diagram X is so serviceable a device as to justify further illustra-

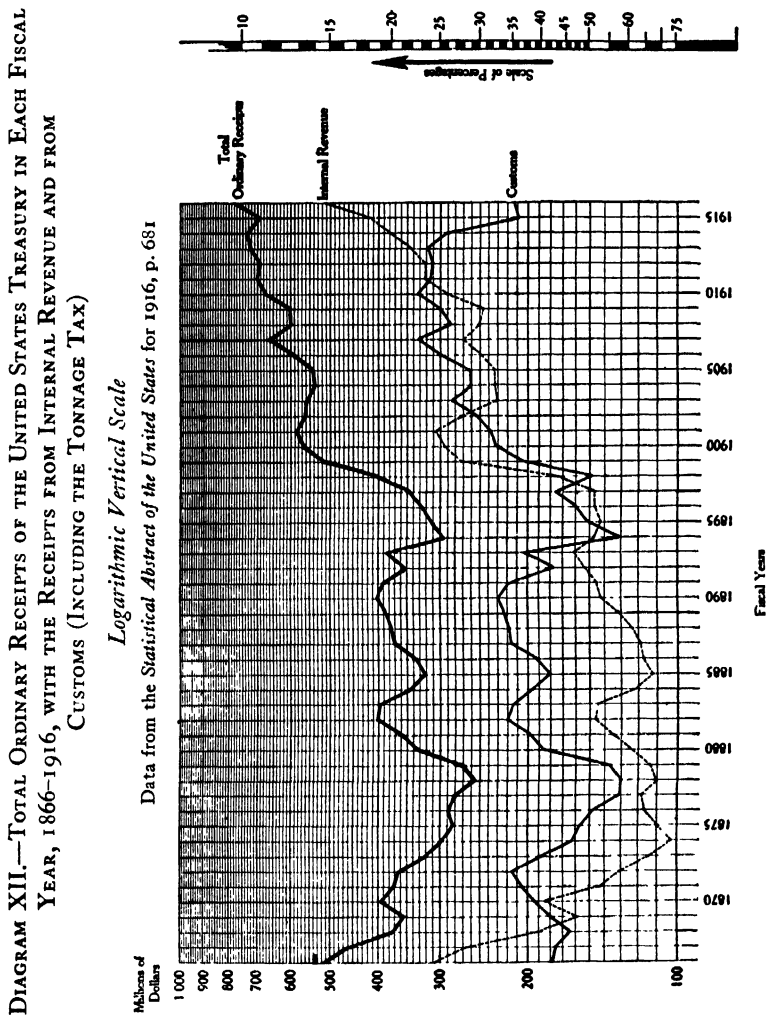


DIAGRAM XII.—TOTAL ORDINARY RECEIPTS OF THE UNITED STATES TREASURY IN EACH FISCAL YEAR, 1866–1916, WITH THE RECEIPTS FROM INTERNAL REVENUE AND FROM CUSTOMS (INCLUDING THE TONNAGE TAX)

Logarithmic Vertical Scale

Data from the *Statistical Abstract of the United States* for 1916, p. 681

tions of its use. In Diagram XI it permits reading dutiable merchandise imports as a percentage of total imports of merchandise; and, when employed to measure

the vertical distance between the customs curve and one of the curves of imports, presents directly the average ad valorem rate of duty for any year, reckoned, as the case may be, on imports as a whole or on dutiable imports only. In Diagram XII it serves to translate into percentages of total ordinary revenue the annual receipts from customs and from internal revenues, respectively. Diagram XIII is a more extreme example of its possibilities. Here the scale, in percentages or in the per-thousand equivalents, not only interprets as a general death-rate the interval between the total deaths curve and the curve of population, but makes possible, by analogous measurements, the determination of death-rates for each specified disease, and the expression of the deaths from each disease as a percentage of all deaths. The noteworthy feature of this illustration is the extreme range of magnitudes in the data presented. The estimated number of persons in 1914 is nearly two thousand times as great as the number of deaths from cancer in 1900. The inclusion of such diverse numbers in one diagram has necessitated a rather severe compression of the vertical scale, with the result that in a diagram of convenient breadth the curves are flatter and less vigorous than would be desirable. But, if the logarithmic method is taxed by the demands of this problem, the natural-scale method fails outright, as is revealed by Diagram XIV. The population curve is here clear enough;[17] but the curve of total deaths is abased into almost featureless insignificance. As for the curves of

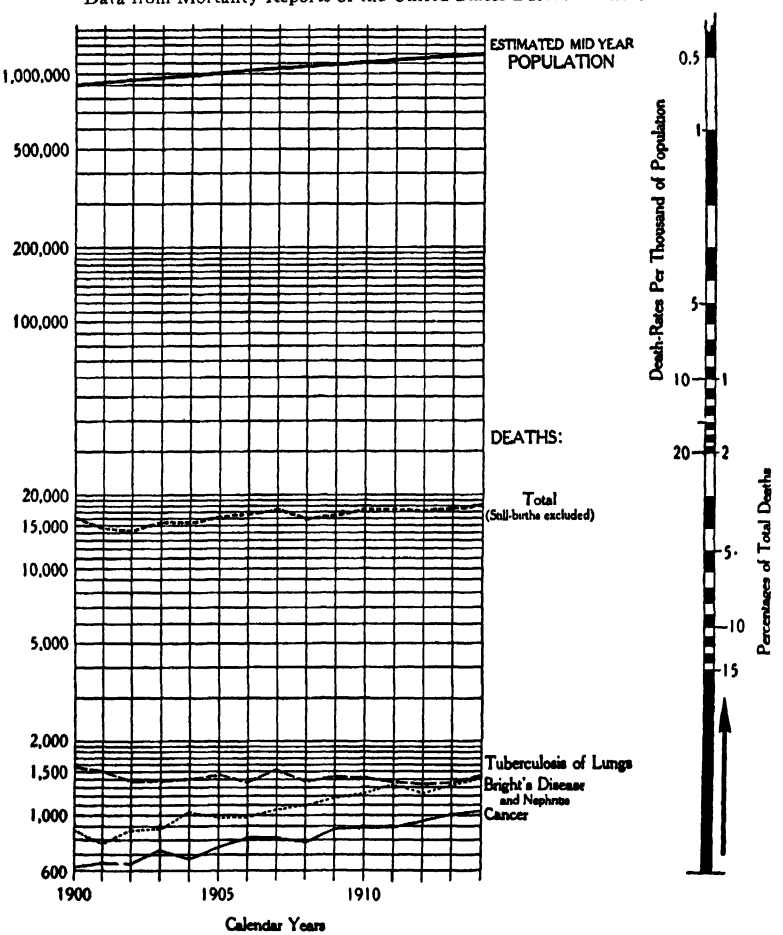
[17] It gives, in fact, interesting proof of the basis upon which the Bureau of the Census estimates the population in intercensal years. The curve is a straight line. Plainly, therefore, the population is assumed to have increased annually since 1900 by one-tenth of the total increase for the intercensal decade 1900–1910.

deaths from special diseases, they never emerge into visibility, but lie blurred in the base-line. The highest

DIAGRAM XIII.—ESTIMATED POPULATION, TOTAL DEATHS, AND DEATHS FROM CERTAIN SPECIFIED DISEASES, IN CONNECTICUT, FOR EACH YEAR, 1900–1914

Logarithmic Vertical Scale

Data from Mortality Reports of the United States Bureau of the Census



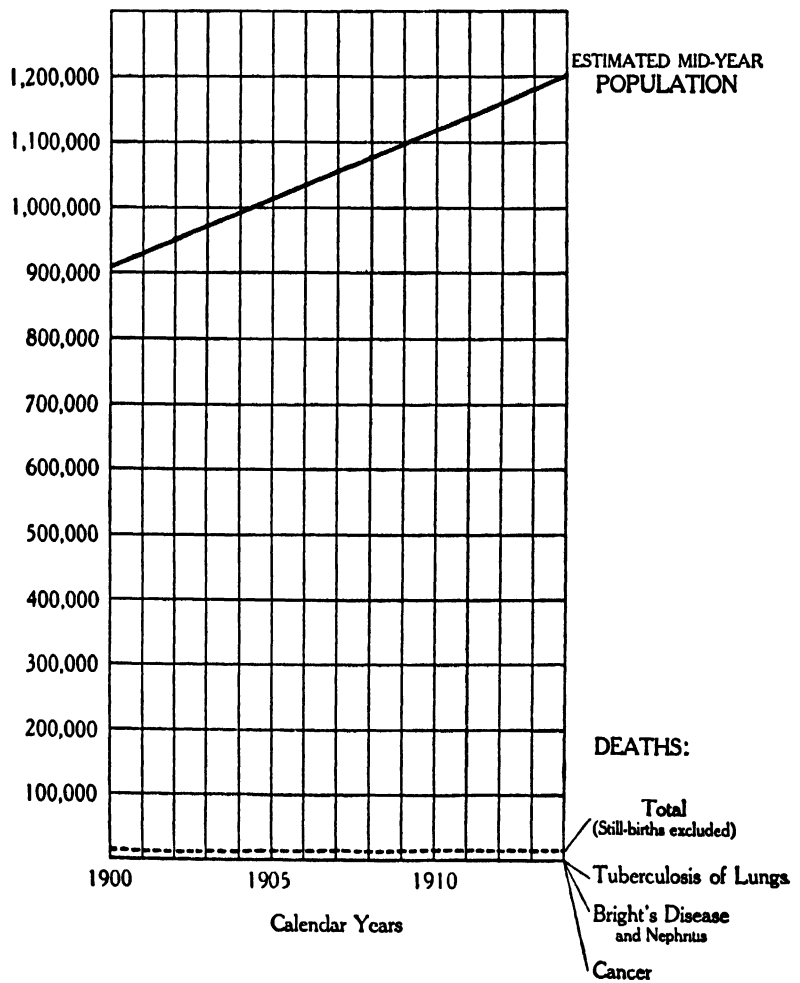
point on the highest of these curves would be but 0.006 of an inch above the zero of the scale.

Thus another merit of no slight importance is to be recorded for the logarithmic scale: it is far superior to the natural scale for effecting comparisons when very small

DIAGRAM XIV.—ESTIMATED POPULATION, TOTAL DEATHS, AND DEATHS FROM CERTAIN SPECIFIED DISEASES, IN CONNECTICUT, FOR EACH YEAR, 1900–1914

Natural Scale

Data of Diagram XIII

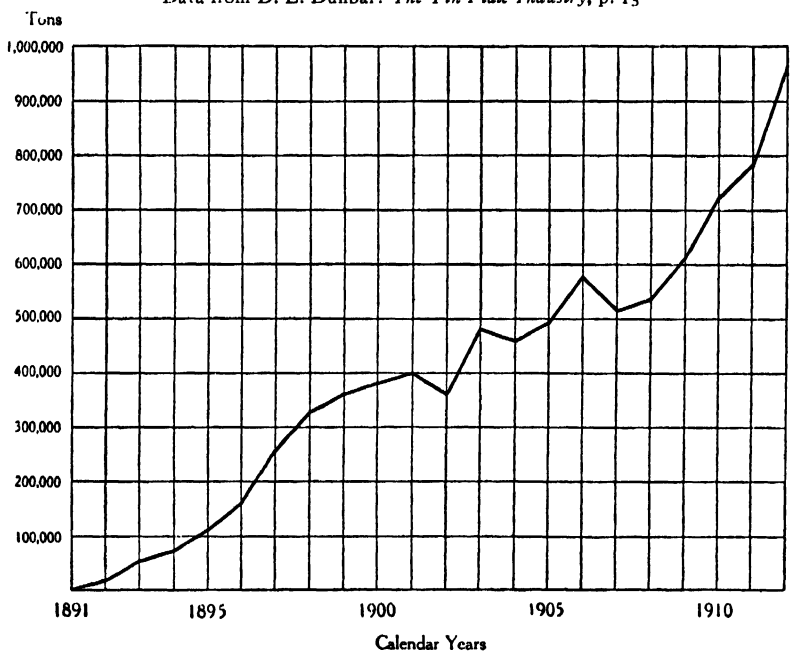


and very large quantities must be taken into account concurrently. Nor is this superiority manifest only in such figures as Diagram XIII. Whenever a historical curve records extreme growth, the same advantage is

DIAGRAM XV.—ANNUAL PRODUCTION OF TINPLATE IN THE UNITED STATES, 1891–1912

Natural Scale

Data from D. E. Dunbar: *The Tin Plate Industry*, p. 15



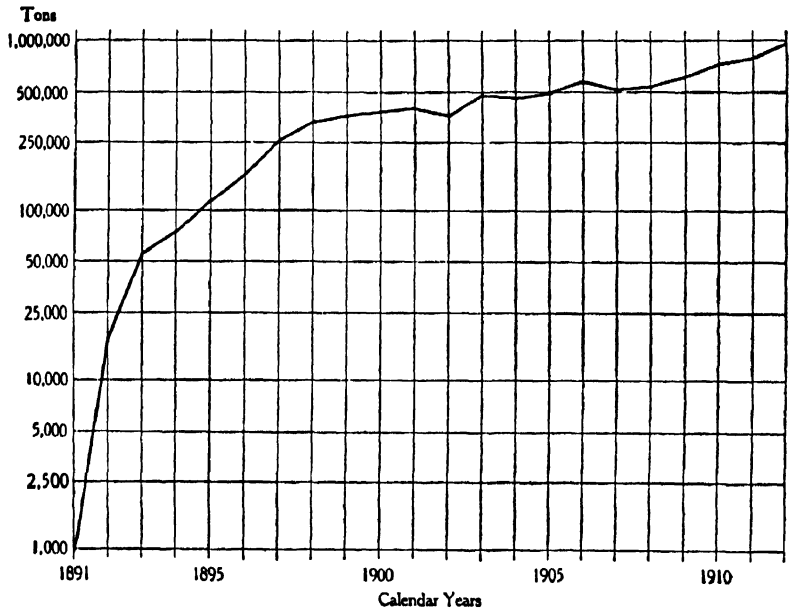
found. It is not necessary to dwarf the small beginnings in order to keep the later development within manageable dimensions. A study of Diagrams III and IV will illustrate this point. More striking illustration is offered in Diagrams XV and XVI. The production of tinplate in 1891 and the years immediately following was so small that the ordinary diagram (Diagram XV) leaves

inconspicuous the extremely rapid rate of progress in output during those first years. The logarithmic diagram (Diagram XVI) quite reverses the emphasis. Plainly, the recent increase has been far from proportionate to the exuberant growth of the infant industry.

DIAGRAM XVI.—ANNUAL PRODUCTION OF TINPLATE IN THE UNITED STATES, 1891–1912

Logarithmic Vertical Scale

Data of Diagram XV



Although the years of small beginnings in a historical record may present no features that require special consideration, the logarithmic historical diagram is again advantageous whenever substantially the same rate of relative increase characterizes the whole period under review. In such cases the general trend or growth-axis of the logarithmic curve will of course be nearly straight.

This is interesting for its evidence of consistent growth. It has the further technical merit of permitting the trend of the curve to be approximately maintained throughout at any desired slope by the mere choice of dimensions for the diagram. Hence such curves can readily be kept close to an inclination of 45°, with the result that irregularities of direction are much more easily noticed than if the slope were as steep or as flat as in natural-scale diagrams some parts of the curve often must be.

For the plotting of index-numbers logarithmic diagrams are particularly appropriate, for here the numbers themselves are ratios, and their relative aspect is important. If an index number of general prices should rise from 80 to 100, and later from 100 to 120, the two changes would appear of equal significance in an ordinary diagram. Yet the first is an increase of 25 per cent, the second, an increase of but 20 per cent. In their effects upon the purchasing power of stated money incomes the two changes are by no means the same. A logarithmic diagram reveals their significant difference. Diagrams XVII and XVIII contrast the natural-scale method with the logarithmic-scale method in the case of the general index number of wholesale prices from 1890 to 1914, published by the United States Bureau of Labor Statistics. It will be remarked that the logarithmic figure, which does not require a zero base-line in order to convey a true sense of relative values, permits a considerable saving of space.

The foregoing discussion has referred throughout to graphic constructions in which logarithmic intervals may be substituted for uniform intervals in the vertical scale. Such constructions include nearly all the im-

DIAGRAM XVII.—COURSE OF THE GENERAL INDEX NUMBER OF WHOLESALE PRICES PUBLISHED BY THE UNITED STATES BUREAU OF LABOR STATISTICS, 1890–1914

(AVERAGE PRICES FOR THE PERIOD 1890–99 ARE TAKEN AS 100)

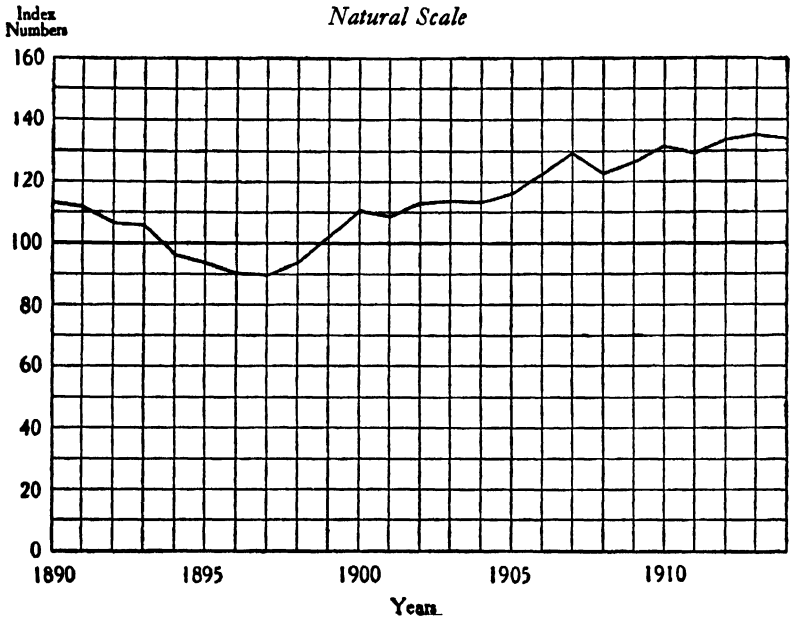
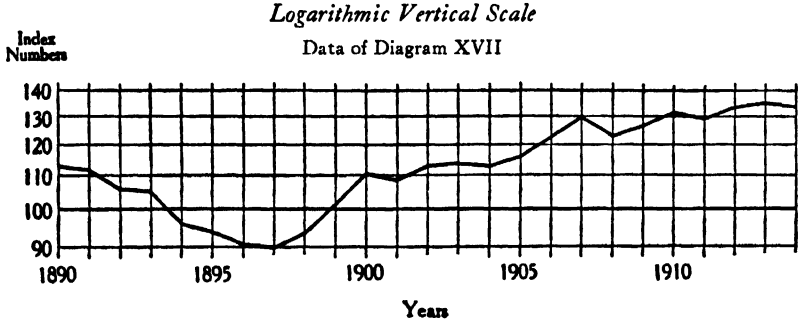


DIAGRAM XVIII.—COURSE OF THE GENERAL INDEX NUMBER OF WHOLESALE PRICES PUBLISHED BY THE UNITED STATES BUREAU OF LABOR STATISTICS, 1890–1914



portant uses to which logarithmic scales have been put in statistical representation. The reason for the prevalence of this usage is sound, but it admits of exceptions. On occasion the horizontal scale may be selected for logarithmic subdivision.

The vertical scale, by convention, is the scale of the "dependent variable," while the "independent variable" is plotted on the horizontal scale. That is, the horizontal scale defines the questions to be answered: the vertical scale shows the answer. The statistical investigator determines the independent variable when he decides upon the terms of his problem. His study of imports, for example, is to be a study by fiscal years. From the moment of that decision, time, in fiscal years, is the independent variable in his investigation. When his results are presented in graphic form, the years will appear along the horizontal scale. Persons who examine his diagrams will recognize the years as the basis of the study, but will fix their immediate attention upon the dependent variable—the annual amounts of imports, measured upon the vertical scale. Because the values of the dependent variable are thus the matter of immediate interest in a diagram, the statistician not unnaturally devotes to them his most careful expository devices and among others the device of the logarithmic scale for the special elucidation of relative magnitudes.

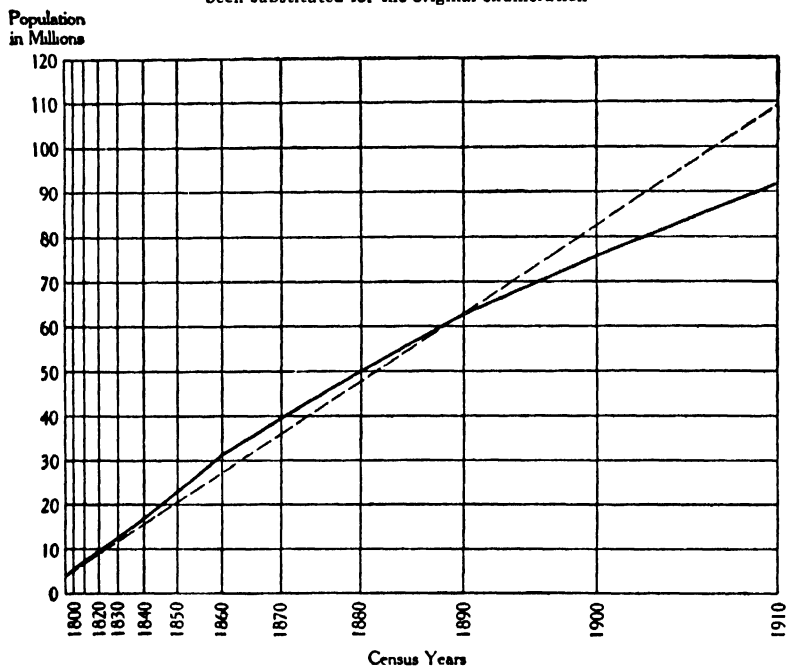
But precisely because of this emphasis upon the dependent variable it is unfortunate to becloud it with any uncertainty which, for the uninitiated, may lurk in the logarithmic intervals. Since, on the other hand, values of the independent variable are so much taken for granted—since, for example, the notion of successive years of observation is so simple and familiar—it might

seem expedient, if it were possible, to use the ratio-scale for the independent variable, to the end that there should emerge a diagram combining the advantages of

DIAGRAM XIX.—ACTUAL GROWTH OF THE POPULATION OF THE UNITED STATES (CONTINUOUS LINE) CONTRASTED WITH A HYPOTHETICAL DOUBLING EVERY 25 YEARS SINCE 1790 (BROKEN LINE)

Geometric Horizontal Scale

Data from 13th Census of the United States, I, 24. The revised estimate for 1870 has been substituted for the original enumeration



the logarithmic method with the simplicity of a natural vertical scale. This objective, though not wholly realizable, may be approached in special and limited instances.

Diagram XIX illustrates a simple attempt of the sort. It is designed to contrast the actual growth of population in the United States with the growth that would

have taken place if a constant geometrical rate of increase had doubled the numbers every twenty-five years since 1790. The vertical scale, recording population in millions, has the natural, uniform intervals. The dates of the successive censuses are arbitrarily marked off on the horizontal scale at such points that the broken-line curve of the figure, representing the hypothetical doubling of population every twenty-five years, shall be a straight line. In other words, the decennial intervals of the horizontal scale are made proportional to the assumed absolute increases of population during the corsponding periods, and therefore constitute a geometrical series. When the actual growth of population, according to census enumerations,[18] is plotted to these scales, the course of the resulting curve, viewed in relation to the straight line of the hypothesis, effectively shows to what extent the predicted rate of doubling has in fact been realized. The deviations of the actual curve (the heavy, continuous curve in Diagram XIX) from the hypothetical straight line are in this construction easily read from a natural scale; but they are of course depicted as absolute and not as relative deviations.

In Diagram XX a similar horizontal scale is utilized for charting depreciation on the basis of an annual shrinkage in value equal to 10 per cent of the value at the beginning of the year. Each interval on the time-scale is taken as $\frac{9}{10}$ of the preceding interval; and consequently the required depreciation curves are straight lines, whatever the original values subject to depreciation.

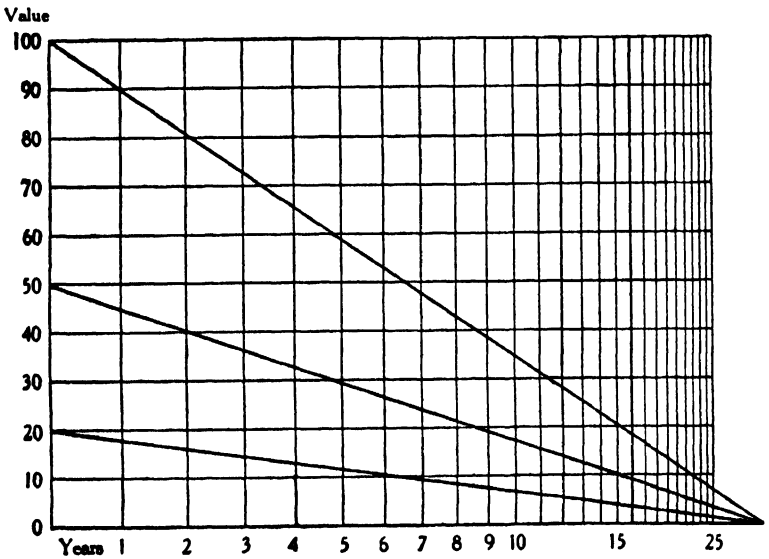
For its special purpose the construction of Diagram

[18] As before, in Diagrams V and VI, the revised estimate for 1870 has been substituted for the original enumeration.

XX is simple and convenient. The method there em- than ployed is, however, of much more restricted use e of the method adopted in the somewhat analogous case be Diagram VII. In that figure (which might, of course, ER read backward to determine depreciation instead of

DIAGRAM XX.—DEPRECIATION CHART, SHOWING THE RESIDUAL VALUE, AFTER ANY SPECIFIED NUMBER OF YEARS, OF A GIVEN ASSET DEPRECIATING ANNUALLY BY 10 PER CENT OF ITS VALUE AT THE BEGINNING OF THE YEAR

Geometric Horizontal Scale



compounded increase) the several curves that show increase at 6 per cent compound interest are not merely straight lines, but lines of the same characteristic slope, whatever the initial amount invested. In Diagram XX the different depreciation curves are not parallel: the slope of each depends on the initial value. Again, whereas in Diagram VII compound increase at any rate other than 6 per cent would be denoted by a straight line of

another and equally characteristic slope, curves drawn in Diagram XX to show depreciation at a rate other than 10 per cent per year would not be straight lines. The device of a geometric horizontal scale, as applied in Diagrams XIX and XX, can be adapted to give straight-line curves for any one rate of geometric increase or decrease, but for only one.

The construction of Diagram XX seems at first glance to involve the paradox of complete amortization by the repeated writing off of a fixed annual percentage. The vertical scale of values, being a natural scale, has of course a definite zero base-line which the depreciation curves, being oblique straight lines, must cut if they are sufficiently prolonged. They do in fact cut it in a common point, as the figure demonstrates. But this point represents, on the scale of years, an infinity of time. Though the graduation of the horizontal scale be extended by any finite number of the dwindling one-year intervals, this point will not be quite reached. Thus the impossibility of final amortization which in a depreciation chart of the type of Diagram IX would be attested by the infinite remoteness of the zero value on a logarithmic vertical scale, here manifests itself in the infinitesimal effect of added years.

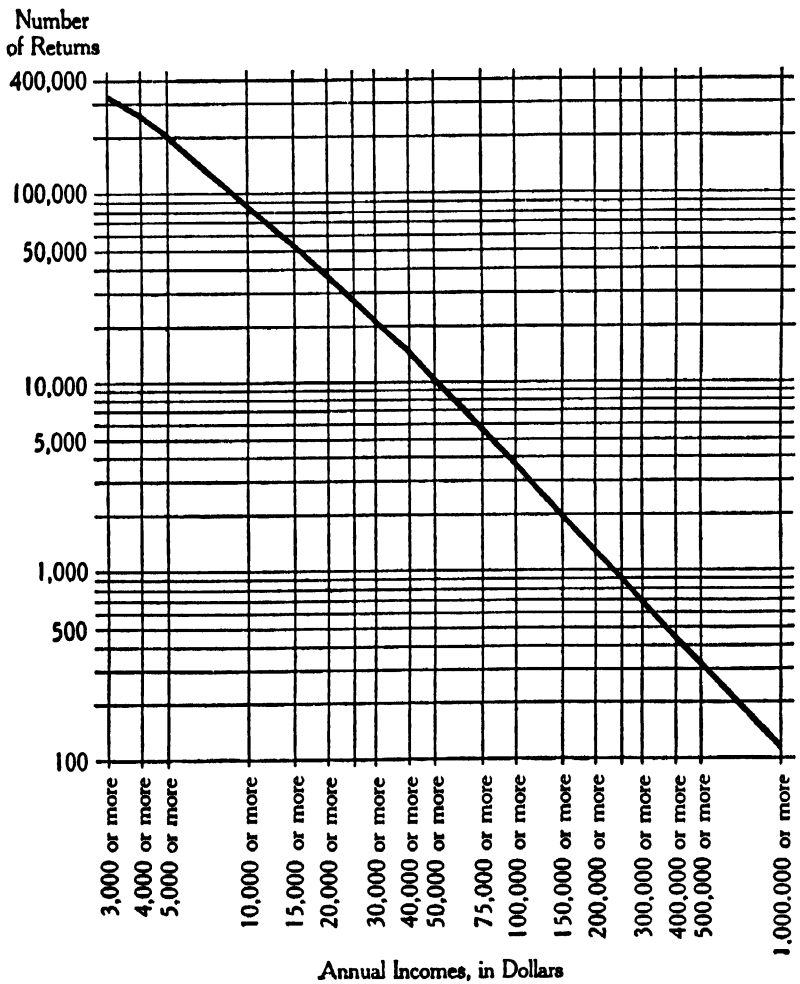
Of diagrams with both scales divided logarithmically a single example will suffice. Diagram XXI exhibits, on a double logarithmic scale, the numbers of incomes in the United States which, according to the personal income-tax returns for the calendar year 1916, equaled or exceeded the annual amounts specified. Diagram XXII, with natural scales, presents the same data for amounts up to $100,000. To have presented the full range of the data in this form and within the limits of

DIAGRAM XXI.—DISTRIBUTION OF PERSONAL INCOMES SUBJECT TO THE UNITED STATES FEDERAL INCOME TAX, AS REPORTED FOR THE CALENDAR YEAR 1916

The curve shows the total number of incomes equal to or exceeding each specified annual amount

Double Logarithmic Scale

Data from the *Statistical Abstract of the United States* for 1916, pp. 648–49

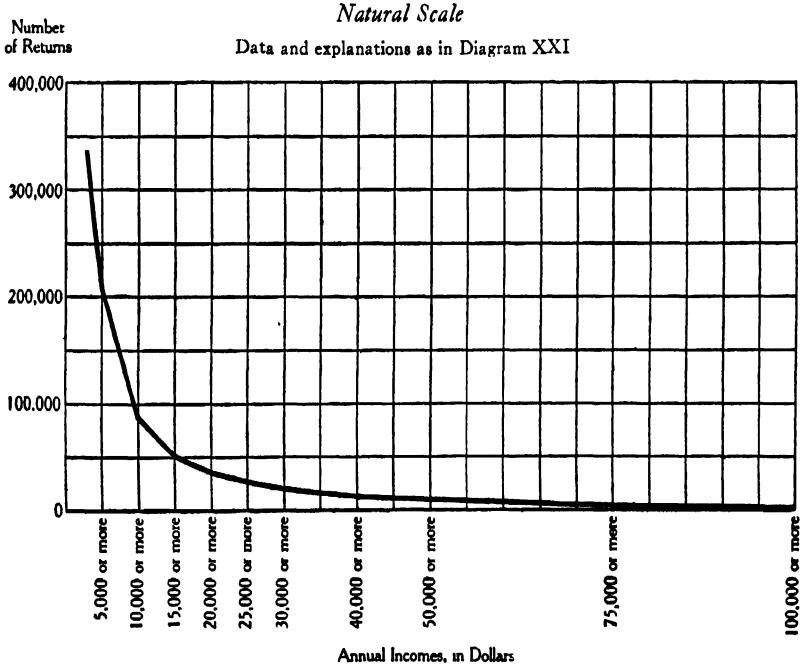


the page would have compelled plotting the amounts of income on about one-tenth the scale actually adopted, with the result of rendering virtually invisible the detailed distribution of incomes under $10,000 a year—

DIAGRAM XXII.—DISTRIBUTION OF PERSONAL INCOMES SUBJECT TO THE UNITED STATES FEDERAL INCOME TAX, AS REPORTED FOR THE CALENDAR YEAR 1916

Natural Scale

Data and explanations as in Diagram XXI



that is, of nearly three-fourths of all the incomes reported. Diagram XXI thus proves again the economy of space which logarithmic scales may effect. In this particular case it serves also a more interesting purpose; for it tests, by these special data, Professor Pareto's generalization, according to which the curve of the distribution of incomes, plotted in this manner to a double logarithmic scale, approximates a straight line.

If it were the aim of this article to explore the full possibilities of logarithmic diagrams as a means of statistical analysis, many other interesting instances might no doubt be adduced. But the intention, as was announced at the outset, is rather to exemplify, and thus to familiarize, the more obvious advantages of the logarithmic scale in graphic representation. That intention has perhaps now been in some measure accomplished.

From the illustrations which have been offered it will have appeared first of all that logarithmic diagrams present ratios and relative changes as directly and simply (though not, to the uninitiated eye, so obviously) as natural-scale diagrams present absolute differences. Consequently the logarithmic method is peculiarly effective when the data are essentially relative; when they exhibit a tendency to increase or decrease at a fixed relative rate; or when significant proportionalities between different series of data are to be demonstrated. Incidentally it serves to economize space, and thus permits the inclusion of very diverse magnitudes in the same figure. These are real advantages, which clearly justify the use of logarithmic constructions in a considerable range of graphic work—sometimes by themselves, sometimes in conjunction with other forms of representation. How extensively such constructions will or should supplant ordinary figures on the natural scale need not now be argued. It is enough to make known their fundamental properties. When these are generally appreciated, we may trust the ingenuity and judgment of statisticians to find for logarithmic diagrams the place that they deserve.

XV

OUTLINE OF "STANDARD OF LIVING" COURSE

"*The standard of living*"

Prevalence and popularity of the phrase. Borrowed in foreign languages. Apparent impression that it conveys not only an important but a clear meaning. Actual many-sidedness, vagueness, and inconsistency of the usage, covering what unhappily is and what ideally should be. Subjective attitude and objective fact: meritoriousness of the personal way of economic life and accomplishment of economic civilization (or advantages of the milieu?).

Some distinguishable meanings of the phrase

a) A generalized formulation of observed living-conditions;

b) A norm or recommendation;

c) An ideal or aspiration.

a) A generalized formulation of observed living-conditions.

Budget studies. Lists of things done, bought, used, or spoiled. Ostensibly objective and matter-of-fact without interpretation or appraisal in terms of what is or should be desired.

Standard here signifies a sort of averaging. Persistent, habitual, unvarying usage. Prevalence throughout a whole group or situation—Chinese vs. American standard. Wage-earning group in the classical tradition.

Standard as habit; standard as class characteristic or criterion. Bowley's definition of standard: ". . . . a composite of the goods and services obtained in nearly the same quantities by normal families whose mode of life is similar. . . . ."

Either notion, especially if tinged with some value-judgment, passes easily over into (*b*).

b) A norm or recommendation of the scheme of consumption necessary or appropriate to maintain life, e.g., bare living wage; to achieve efficiency, e.g., model dietaries, etc.; to promote welfare, happiness, etc.; to conform with national or class prejudices, e.g., notions of expenditure as inappropriate, out of place, extravagant;

censorious neighborhood gossip, mistress passing judgment on servant, etc.

Standard here is roughly equivalent to pattern or specification.

Legislation and normative standards: sumptuary laws in general; tax exemptions; minimum wage; housing minima; laws regulating purity of food; compulsory education.

Note that these normative standards, ordinarily, are in effect more or less socialized personal judgments or opinions of what is best or tolerable for others or for people in general, e.g., reactions to budget statistics. They are therefore grounded in one's own habits and predilections and thus in a measure impertinent. To some extent they tend to make actual for others what is actual for their proposers. They imply none the less a sort of ideal or hope; are usually inclined to augment rather than restrict and thus lead over into (*c*).

c) An ideal or aspiration typically for one's self, or for one's own group, which, largely conceived, becomes the community or class.

Standard here signifies aim, objective, ideal. Visionary? realizable? realized? Effort to realize and reaction on plan of life? This is the motive aspect of the standard of living; the standard which is counted on and appealed to to do things, to change the existing situation and therefore the standard in sense (*a*). The *de facto* standard (*a*) is taken as the more or less thwarted realization of the standard (*c*); (*b*) is a hard-headed compromise (cf. Plato's *Laws*) or a highest common factor of divergent individual aspirations. In certain implications (*c*) is regarded as creative, spiritual, divine discontent. (Cf. H. W. Stuart, "The Phases of the Economic Interest," in *Creative Intelligence*.)

Are all these variant meanings but shades of the same, so that the idea conveyed by the phrase standard of living, though rich and many sided, is at heart a consistent, even single idea? Note that (*a*), (*b*), and (*c*) may all be recognized for the same person or group at the same time. Cf. the college man beginning at the bottom.

Another interpretation of the standard of living as suggested in Ely's and Carver's definitions.

Carver: "The term standard of living means the number of desires which, in the average person of the class in question, take pre-

cedence over that group of desires which result in the multiplication of numbers" (*Principles of Political Economy*, p. 393).

Ely: "The number and character of the wants which a man considers more important than marriage and family constitute his 'standard of life' " (*Outlines of Economics* [1893], p. 181).

Obvious shortcomings of these definitions: Too individual? (Or is it the standard of a given *pair?*) Can one live regularly above one's standard of living? Is it unimportant that the standard of living concept should take account of how much one exceeds the requisite of one's standard in this minimum sense? Have persons already married, or at least persons past the age of procreation, no standard except by way of regretting or reviewing the past? Is it the case that standard of living is of no interest when relation to reproduction has ceased to be of significance? Note that the Ely-Carver definition seems to belittle the course of development of one's standard through life, by focusing the test on one point in life. Is one's decision to marry perhaps based on a plan and forecast of life?

The cardinal merit of these definitions: they emphasize the distinction between increasing the consumption of existing consumers and increasing the number of consumers.

Procreation as an alternative form of consumption. Vicarious consumption by children. Expenditure on family as personal expenditure.

Spencer's antithesis: individuation and genesis.

The organic balance of power: Fertility of a species slackens as individuals gain power to maintain themselves. Compare the cod and the elephant. Excessive fertility cramps and shortens individual life. Vital compensation in the individual; sex activity reduces energy for other activities. Social implications: in individual's lifetime; for the future.

The Malthusian dilemma an expression of the same conflict of interests.

Concluding comment on Ely's definition: Its narrowness. (Cf. footnote, *Outlines* [1893], p. 181.) What of wants, not essentially reproductive, which are conventionally associated with marriage? Comforts of home: privacy, settled conditions, good food. Social status; facilities for entertaining in upper-class life.

Relation of the concept of the standard to the "normal family." Is the "normal family" essentially the expression of a prevailing balance, in a given class, between the counter-claims of consumption and procreation, i.e., the *expression* of a standard, rather than the arbitrary basis of studying standards?

The extension of consumption

What are necessaries, decencies, comforts, luxuries?

Senior's scheme: Necessaries—". . . . those things the use of which is requisite to keep a given individual in the health and strength essential to his going through his habitual occupations." Decencies—". . . . things which a given individual must use in order to preserve his existing rank in society." Luxuries—"Every thing else. . . ."

What is necessary? Conventional implication of "habitual occupations." Conventional necessity—not always less compelling than "physiological" necessity. Varies with class or status. Connotation of luxury in common parlance. Is it merely what is conventional among people better off? In the concrete, goods are seldom clearly and exclusively necessary, or conventional, or even luxurious: we minister to physical wants in conventional ways and often with luxurious lavishness. Hothouse grapes as food; forms and manners of serving bread; silk hats of clerks, cab drivers, and undertakers; table d'hôte service—potato garnish, mushrooms, parsley (symbolic—why not paint on the dish?), change of dishes, etc. (Cf. "plate service" and cafeteria service.) Note that a person who tries to omit frills in clothing and be austerely utilitarian would have to pay for a custom-made (luxurious) article. There are both costs and savings of conventional consumption.

In the development of habits of consumption luxury suggests adventure, extravagance, exceeding one's previous experience of satisfaction. "Blowing money." Decency suggests defensive conformity, regard for the ways of others. But one typically tries to "climb"—to conform to successively more exacting conventions and class standards, and to innovate with the idea of making others follow. (Cf. Dumont's *capillarite sociale.*)

Conformity. Ostentatious non-conformity. Emulation and the invidious attitude shown in advertising appeal—e.g., motor cars. Flattery of one's sense of superiority in wealth and dis-

crimination. Correct, exclusive, negligee. Motor cars and status. "Locomobiles for hire" at the Ritz. Ford rather than middle-priced car. In general, the diminutive and absurd as means of escaping *obvious* economy. Bohemian paint on little houses.

Democracy—i.e., flexibility of status—and size and character of the community in relation to the emulative and invidious attitudes, and to the motive significance of standard of living in general. City vs. country.

The dynamic element in the standard of living

Standard of living as a product of two interrelated factors: one's actual situation and one's reaction to it—one's intention to change it.

The expansion factor: if > 1, the individual is ambitious, up-and-coming, on the make; if $= 1$, he is shiftless, easy-going; if < 1, ascetic. Result is back to nature or the simple life. This may be simply an inverted conventional ambition.

Expansion-factor as a function of many variables: (*a*) Dependence on individuality, imagination, educability, responsiveness, suggestibility, surroundings, associates, economic power. (*b*) Varies with age, economic career, family relations and obligations. (*c*) Varies with the point of departure or the actual economic situation to which it expresses the reaction.

Implication of a normal scheme of approved consumption, departure from which is a stress sign.

Criteria of normality:

The actual consumption-habits of the (more prosperous?) commentator and well-wisher. Relevant if the person who thus attributes his standards to others is either a person whose way of living is emulated by those under investigation or a person whose standards are more experienced and therefore presumably of the sort which those under investigation are tending toward, unconsciously.

Norms based on generally held assumptions concerning the importance of health, race perpetuation, co-operation, good citizenship, community relations, etc. These are somewhat less individual judgments, but still based on standards of the observer.

Norms of the nature of statistical generalizations based on

observed habits of consumption. Objective, apart from bias in selecting the cases for generalization. Note that in this case, and in some degree in all these norms, the norm includes a normal element of stress—a normal degree of economic discontent, and a normal manifestation of it in the way in which people live. Hence stress indicated by departure from normal expenditure is to be regarded as differential or abnormal stress—the peculiarity of the individual.

Signs of stress in the scheme of consumption:

Abnormal productive effort such as overtime work; work by mother or children; sacrifice of leisure; impairment or endangering of health by burning the candle at both ends, insufficient sleep, poor food; sacrifice of future wants; disregard for others' wants and interests; refraining from parenthood.

Stress-signs in budget-records, e.g., secondary poverty in Rowntree's terminology. Here, though, the distorted consumption is most often due to drink, gambling, etc., rather than to approved "higher" wants. See also Chapin's note (pp. 129–31) on concurrence of low outlay for food and a surplus, lodgers and a large family, though certain racial habits seem to explain away some of this relationship. (Cf. p. 247, § 4.) In general, strain is implied by departure from the distribution of expenditure usual throughout groups of substantially uniform spending power. (Subnormal slackness, however, may be one reason for abnormal distribution.)

Strain is therefore implied by unusually large proportion of expenditure for things more characteristically enjoyed by persons better off, economically. Decencies may be stress-expenditures—i.e., the emulative, climbing conventionalities —conforming to the usages of those in higher levels of consumption. If this is so, note that upper-class interpreters of poverty, inclined to be touched by lack of conventional expenditures of certain sorts such as savings and insurance, or cultural recreation, may notice unduly little the cases in which stress expresses itself in proportionately high expenditures for climbing or conforming things.

Statistical queries:

Bias resulting from the use of account book data. Account-keepers as a methodical class. Persons not regularly account-keepers will more easily and closely keep track of expenditures which are so regular that they can be estimated for whole periods on basis of short periods, or worked out by stopping to think and calculate. Will other articles be overestimated or underestimated, if the accounting is unreliable?

May bias result also from desire to demonstrate hardship in terms of lack of necessaries?

Ammain-measure of expenditure as a device for making individual and family demands commensurable. The Ely-Carver concept in terms of ammains: Is the standard which one refuses to lower for the sake of marriage and family expressible as a per-ammain minimum?

Certain norms of consumption

Minimum for physical existence. What is bare existence? How long must life be maintained? Is reproduction allowed for?

Minimum physical efficiency (Rowntree's poverty line):

Minimum food—physiologically determined minima of protein and calories, and cheapest forms of food. Minimum *available* lodging—i.e., cheapest quarters to be had that will serve. Minimum clothing compatible with health and employment. Note implication of conventional demands even here. Efficiency raises questions of the relation between production and consumption, e.g., adaptation of Atwater's calorie scale to kind of work. Should production be keyed up, with corresponding increase in food required for efficiency? This leads to the question of maximum efficiency.

Maximum physical efficiency:

Continuing previous hints, maximum efficiency implies a reorganization of production on a basis appropriate for highly efficient workers. Would this norm involve not only a revised scale of nutrition, but of leisure and comforts as well? Is there a relation between leisure, recreation, and efficiency? The place of golf in the efficiency of the captain of industry. Winston Churchill's philosophy of the importance of exceptional

ideas, i.e., the ideas of the mind released from routine. Analogy to conditions of scholarly university work. Exceptional people, exceptional tasks, exceptionally privileged moment—which is the significant emphasis? How far can this be made to apply to all ranks? Difficulty from necessity of subordination and plan.

Motive and efficiency. Conventionalization of worker's wants to promote emulation and efficiency. Can maximum efficiency be expected except of people who have learned to be confident of their power to command the means of making their scale of consumption expand and develop indefinitely? What, then, is the maximum efficiency level?

Meaning of maximum efficiency. Can the engineer's notion of ideally efficient utilization be applied to human agents? Possible concepts of maximum efficiency (assuming some unit to measure production and consumption, and for the present assuming static population or given rate of increase).

a) Maximum proportion of production to consumption.

b) Maximum absolute output—*de facto*, implying, therefore, adequate consumption.

c) Maximum consumption assuming self-sufficiency and therefore production at least equal to consumption.

d) Maximum absolute excess of output over consumption (cf. Carver's formula for the value of a man $V=P-C$).

e) Consumption up to the point beyond which a transfer of consumables to someone else will result in greater net production. (Cf. Carver's national-value formula.)

Interpretation of the definitions which imply a surplus. What happens to the surplus? Distributed among more people? This, though contemplated by Carver (*Religion Worth Having*) as one use, defeats the definition for the community as a whole. Put into durable satisfactions—monumental architecture, etc.? Why is this not consuming all that is produced? Query on durability of taste: shall we always like the monuments of the past? Invested for further production? Why? Is it simply deferring the decision of what is to be done with the surplus? Is survival due to successful capitalistic production to be regarded as satisfaction of a want?

Surplus of expenditure as reserve for contingencies. Is this a criterion of a satisfactory standard of living, or something to be added to standard of living otherwise satisfactory?

At what level does surplus begin? Maximum efficiency level? Cutting below maximum efficiency like trenching on capital. The sacrifices are irrecoverable if incurred by the community as a whole unless there be a decrease of members, an emergency effort beyond ordinary powers, or new and compensating developments of technique.

Can habits of expenditure beyond the maximum efficiency level be cut down to that level in emergencies? Luxurious expenditure? Wasteful expenditure? Deliberate, conspicuous waste is a luxurious convention included in consumption as ordinarily conceived. There is also unconscious waste. Changed meaning of waste with change of economic pressure. It now pays to save what it did not pay to save before. Hence apparent waste in prosperous times is quite consistent with economic will power and discrimination. Picking up pins, nails. Saving string, blank paper. The variation in completeness of utilizing things implies inverse variation in turning one's time and effort to other things. Are time and effort cheap when things are scarce?

Maximum compatible with sufficient reproduction:

Generally accepted that a "high" standard of living is adverse to fertility. This view related to the individuation—genesis antagonism, to Ely's definition and to the old exhortations that laborers be encouraged to acquire more expensive tastes.

Concept of sufficient reproduction: Maintenance of numbers? Minimum acceptable rate of increase? Maximum tolerable rate of decrease? Minimum (e.g., one-child) increase which perpetuates family relations? Sufficient reproduction standard not necessarily in any special or fixed relation to other critical standards as maximum efficiency. Conceivably reproduction might fail in a group before maximum efficiency was reached.

Historical decline of the relative urgency of reproductive wants. Significance of birth control as manifesting the priority of other wants, and permitting constant reinterpretation of the relative want of reproduction.

The reaction of elaborate and extensive consumption on fertility

Hypothetical explanations:

Belief in a direct physiological effect: Sadler, Doubleday, Carey, etc. Spencer's balance of vital forces.

Desire for individual consumption in preference to children. By implication, check to births would be most stringent in social levels where ambition is aroused but consumption is still scanty. Note, however, that expensiveness of children grows with scale of expenditure in general. Costliness of "superior" education; of pretentious toys. Surgeon and dentist's charges to the well-to-do compared with family income of the poor.

Distracting opportunities offered by wealth. Conscious choice of freedom to enjoy. How interpret the evidence implying that the birth-rate is lowest, or childless or one-child families are commonest, in the middle-class levels where realized wealth is slight?

Does low birth-rate raise the standard of living, or high standard of living lower birth-rate? Suggestion that though both ways of putting it are true, the former is more significant in the case of people rising out of poverty; the latter, among the rich.

Differential birth-rate as aggravation of inequality of wealth: less division of inheritances and hence intensification of differentiation of standards. Note that this undivided inheritance may be one of the objectives resulting in reduced birth-rate, or the adventitious consequence of the distractions of wealth.

Differential birth-rate as aggravation of inequality of hereditary capability.

Diverse interpretations of the low birth-rate among the well-to-do:

Non-survival of the élite. Lapse of best inheritable traits. Loss of effects of opportunity.

Discrediting of the élite. Not vital enough to survive—hence "unfit." Is the childless upper-class woman lacking in essential qualities, or simply misdirected, perhaps not brought out? Isn't the quality unfavorable for survival acquired? Acquired in response to economic reward for the special and exceptional?

Triumph of higher wants.

Higher wants

Higher wants as the wants characteristic of higher classes.

De facto dominant classes. Conqueror castes. Standards may be dictated or result from ingratiating imitation. Are conquerors presumably of higher cultural development? As a result of their power to conquer or their power to exploit? Wealth and leisure as prerequisites of development of cultivated taste and refined wants.

Upper classes in the sense of leading, emulated, classes. Is emulation cause or consequence of the rating as "upper" class? Compare Dumont: capillarity always climbs toward the usages of the class higher!

Higher wants as suggested by the order and direction of approved change. Note that higher wants, rather than high wants, are ordinarily discussed. Comparison, rather than absolute appraisal, seems practicable.

The course of their development in the individual: The intellectual prevails over the instinctive; the orderly over the impulsive; wants less separate, more complementary; socialization of wants.

Development of the tradition-forming group: class, culture, or civilization. Cumulative augmentation of tradition as shown in forms, manners, morals, and aesthetic taste.

Approved change: Criteria of approval. Short-run changes seemingly in line with long-run, accustomed trend are more likely to be approved. Slowly changing standards, and the slow sweep of change in itself, set standards which people are wont to regard as absolute. Long-run change by implication is in accord with the relatively permanent conditions of life—instinct, relation to the environment, etc.

Note on "spiritual" wants. Often thought higher—i.e., not mundane, sublunary. Are they more rationalized or sophisticated than other wants? Note the primitive roots of the religious attitude in the *fear* of God—*beginning* of wisdom, i.e., religion comes before men have developed enough in reason to feel confidence in their own understanding and power to act successfully. Are "spiritual" wants higher in a different sense from evolved "material" wants? If so, are there special criteria for higher and lower among "spiritual" wants? Anthropomorphism—attribution to the Deity of the traits and preferences found in the "best people."

Economic amelioration as ordinarily conceived, raising the standard of living, and developing higher wants

Impossibility of comparatively—invidiously—high standards for all. Socialized forms of higher wants, to avoid the invidious. Public baths as substitute for private baths, or as stimulus to want of private baths? Art museums vs. campaign to get pictures into homes. Orchestral music as a good not easily taken up as emulative private consumption. Public monuments vs. bungalow fashions in architecture. Campaigns for artistic furniture.

Higher standards than one previously had—the acceleration aspect. What rate of improvement is desirable? Wretchedness of immobility vs. vicious extravagance of over-rapid increase of consumption. Relation of realized rate of advance to the subjective acceleration-rate of the person. Is that rate independent of one's chance and experience of advance? Suggestion that realized advance less rapid than subjective rate means strain; more rapid, may mean unappreciated goods, or unwise increase of numbers. Does sudden wealth sometimes give a start toward rational living where slow enrichment would not break up slovenly habits? Compare old economic problem: If you had $1000 to spend, would you include in your purchases everything you would have bought with $100?

Amelioration by redistribution of purchasing power, by change in resources through discovery or improved means of exploitation. Where does it lead? To increased numbers with little change of scale of consumption, but gratification of certain desires and more persons enjoying (?) existence? Or to gain and loss, perhaps more loss than gain, of invidious advantage?

Exploitation of resources:

Land and agricultural resources. Tendency to stimulate increase of numbers, at a moderate level of consumption and with little leisure or comfort, so far as the masses are concerned. History of colonial countries.

Raw materials. Exploitation implies development of technique and permits elaborate products. Tendency, in the past, at least, to differentiation of industrial status and standards, and to advance of standards in the employing and capitalist class. Developed technology tending to elabora-

tion of goods for all, but not necessarily to elimination of great poverty.

Relation of technique to exploitation. Use of domestic animals, wagons, simple tools, implicit in any extractive process. Where a special technique is involved—notably in case of monopolized devices—differentiation again appears, with elaborate scales of consumption for those who control or utilize the new methods. After a new invention becomes common property, i.e., patents have expired, *de facto* monopolies have disappeared and the knowledge has become general, what is its net effect on standards? Improved transportation (always involving increases of resources?) presents a special case when it means easier access to elaborate products already made, or to articles appropriate for luxury. Then it facilitates satisfaction of "higher" wants—or at least the developed wants ministered to by the industry of the region newly tapped. Compare oriental trade, spice-trade, etc.

Progress of individual standards. If all experience gain, all are pleased, but is it endless—insatiate? Where does it lead? "Progress," "higher," etc., as disguises of the fact that we never arrive. Is it enough to keep going? How far can the desire for change, for more, be reckoned with hunger and sex desire as an essential of human nature, not debatable, and therefore to be satisfied like the other more obvious wants? And, in so far as it develops later and is more human, a higher want?

PART III

BOOKS AND PAMPHLETS ON POPULATION IN THE LIBRARY OF JAMES ALFRED FIELD

ALISON, ARCHIBALD. The principles of population, and their connection with human happiness. In two volumes. Edinburgh: William Blackwood and sons; London: Thomas Cadell, 1840. 2 v. Pp. xix+572; viii+544.

D'AMILAVILLE, "Population" (pp. 782–808); DE LA LANDE, "Addition à l'article Population" (pp. 808–10); COLLOT, commissaire des guerres, "A. N. Population" (pp. 810–12). [A portion taken out of Vol. XXVI, Part II, of Encyclopédie ou dictionnaire raisonné des sciences, par M. Diderot. Berne et Lausanne: Les Sociétés Typographiques, 1780.]

AMMON, OTTO. Die natürliche Auslese beim Menschen. Auf Grund der Ergebnisse der anthropologischen Untersuchungen der Wehrpflichten in Baden und anderer Materialen. Jena: Gustav Fischer, 1893. Pp. x+326.

ASHTON, JAMES. The book of nature containing information for young people who think of getting married, on the philosophy of procreation and sexual intercourse, showing also how to prevent conception and to avoid child-bearing. [No imprint.] Pp. 64.

Barker's review of politics, literature, religion and morals, and Journal of education, science, and co-operation. Vol. I, nos. 1–26 [Sept. 7, 1861—March 1, 1862]. [Vol. II, nos. 27–52, March 8—Aug. 30, 1862.] London: Barker and co. [Weekly.]

BEALE, OCTAVIUS CHARLES. Racial decay, a compilation of evidence from world sources. London: A. C. Fifield; Sydney [Australia]: Angus and Roberts, Ltd., 1911. Pp. xviii+439+xx.

BENOISTON DE CHATEAUNEUF, [LOUIS FRANCOIS]. De la durée de la vie humaine dans plusiers des principaux états de l'Europe, et du plus ou moins de longévité de leurs habitans. Extrait des Annales d'hygiène et de médecine légale, Tome XXXVI, 2e partie.

BERTILLON, JACQUES. La dépopulation de la France, ses conséquences.—Ses causes, mesures à prendre pour la combattre. Paris: Felix Alcan, 1911. Pp. iii+346.

BESANT, ANNIE. The law of population: its consequences, and its bearing upon human conduct and morals. London: Freethought publishing co., n.d. Pp. 48.

———. The law of population, its consequences and its bearing upon human conduct and morals. San Francisco, 1893. Pp. 73+[5]. (The Reader's library. Issued monthly. No. 8.)

The Black dwarf. A London weekly publication, edited by J. T. Wooler. Volume XI [Nos. 1–27, July 2—Dec. 31, 1823]. London: T. J. Wooler, 1823.

BLONDEL, JAMES AUGUST. The power of the mother's imagination over the foetus examin'd. In answer to Dr. Daniel Turner's book, intitled A defense of the XIIth Chapter of the first part of a treatise, De morbis cutaneis. London: sold by John Brotherton, 1729. Pp. xi+143.

BLOUNT, ANNA E. A talk to mothers by a doctor who is herself a mother. [No imprint.]

BONAR, JAMES. Parson Malthus. Glasgow: James Maclehose, 1881. Pp. 58.

———. Malthus and his work. London: Macmillan and co., 1885. Pp. viii+432.

BONNER, HYPATIA BRADLAUGH. Charles Bradlaugh—a record of his life and work by his daughter. With an account of his parliamentary struggle, politics and teachings, by John M. Robertson. London: T. Fisher Unwin, 1895. 2 v. Pp. xiv+400; ix+440.

The Book of Murder! A vade-mecum for the commissioners and guardians of the new poor law throughout Great Britain and Ireland, being an exact reprint of the infamous essay on the possibility of limiting populousness, by Marcus, one of the three. With a refutation of the Malthusian doctrine. [London:] Printed by John Hill, and now re-printed for the instruction of the labourer, by William Dugdale, 1839. Pp. 75.

BOOTH, DAVID. A letter to the Rev. T. R. Malthus, M.A. F.R.S. Being an answer to the criticism, on Mr. Godwin's work on population, which was inserted in the LXXth number of The Edinburgh review: to which is added an examination of the censuses of Great Britain and Ireland. London: Longman, Hurst, Rees, Orme, and Browne, 1823. Pp. iv+124.

BOURNE, STEPHEN. Trade, population and food. A series of papers on economic statistics. London: George Bell and sons, 1880. Pp. xxvii+348.

BRADLAUGH, CHARLES, AND ANNIE BESANT. The Queen v. Charles Bradlaugh and Annie Besant. (Specially reported.) [In the high court of justice. Queen's bench division, June 18th, 1877.] London: Freethought publishing co., [1877]. Pp. ii+355.

BROCA, PAUL. Sur la prétendue dégénérescence de la population française. Paris: E. Martinet, 1867. Pp. 55. (Extrait du Bulletin de l'Académie impériale de Médecine, XXXII (1867), 547.)

BRYDGES, SIR EGERTON. The population and riches of nations, considered together, not only with regard to their positive and relative increase, but with regard to their tendency to morals, prosperity, and happiness. Paris and Geneva: J. J. Paschoud; London: Rob. Triphook, 1819. Pp. xxix+248.

BURN, JOHN ILDERTON. Familiar letters on population, emigration, home colonization, &c. Dedicated by permission to the Right Honorable Lord Henley. London: Hatchard and son, 1832. Pp. viii+255.

CADOR, L. Subsistances et populations. Paris: Guillaumin et cie., 1850. Pp. 464.

CHALMERS, GEORGE. An estimate of the comparative strength of Britain during the present and four preceding reigns: and of the losses of her trade from every war since the Revolution. To which is added an essay on population by the Lord Chief Justice Hale. London: C. Dilly and J. Bowen, 1782. Pp. iv+197.

CHALMERS, THOMAS. On political economy, in connexion with the moral state and moral prospects of society. Glasgow: William Collins, etc., 1832. Pp. viii+566.

Chambers's information for the people. New and improved edition. Conducted by W. and R. Chambers. Part XI. Contents. No. 43. Commerce—Money—Banks. No. 44. History and nature of laws. No. 45. Political economy. No. 46. Population—poor laws—life assurance. Edinburgh: William and Robert Chambers, [1835]. Pp. 673–736.

COBBETT, WILLIAM. Surplus population: and Poor-law bill. A comedy in three acts. [London: W. Cobbet, 1823.]

Cobbett's poor man's friend: or, Useful information and advice for the working classes; in a series of letters, addressed to the working classes of Preston. No. 1 [Aug. 1, 1826—no. 5, Oct. 18, 1827]. London: W. Cobbett, [1826–1827].

Cobbet's two-penny trash; or Politics for the poor. Volume I, no. 1,

July, 1830—no. 12, June, 1831 [–Volume II, no. 1, July, 1831—no. 12, July, 1832]. London: The author, 1831 [–1832]. Monthly.

COGHLAN, T. A. The decline in the birth-rate of New South Wales and other phenomena of child-birth. An essay in statistics. Sydney: William Applegate Gullick, 1903. Pp. 69.

CONDORCET, [MARIE JEAN ANTOINE CORITAT, *marquis de*]. Esquisse d'un tableau historique des progrès de l'esprit humain. Ouvrage posthume de Condorcet. Paris: Agasse, L'an III de la Republique [1794]. Pp. viii+389.

CRACKENTHORPE, MONTAGUE. Population and progress. London: Chapman and Hall, Ltd., 1907. Pp. 131.

———. The eugenic field. [A separate reprint from The Eugenics Review, I (April, 1909), 11–25.]

DE QUINCEY, THOMAS. The logic of political economy. Edinburgh and London: William Blackwood and sons, 1844. Pp. ix+260.

DOUBLEDAY, THOMAS. The true law of population shewn to be connected with the food of the people. London: Simpkin, Marshall, & co., 1842. Pp. xiv+278+viii.

———. The true law of population shewn to be connected with the food of the people. Second edition. London: George Pierce, 1847. Pp. xvi+278.

———. The true law of population shewn to be connected with the food of the people. Third and enlarged edition with a postscript. London: Smith, Elder & co.; Bombay: Smith, Taylor & co., 1853. Pp. xvi+338+lxii.

DOUSE, W. J. A new treatise on the population question, for the married of both sexes, and those about to marry; with moral and natural checks, as advocated by the Rev. Malthus, and many eminent physicians. Nottingham: C. J. Welton, [1881]. Pp. 50.

DRYSDALE, CHARLES R. The population question according to T. R. Malthus and J. S. Mill. Giving the Malthusian theory of over-population. London: William Bell, 1878. Pp. 94.

———. The cause of poverty. A paper read at the National Liberal club, on 21st October, 1890. London: G. Standring, R. Forder, 1891. Pp. 15.

———. The life and writings of Thomas R. Malthus. Second edition. London: Geo. Standring, 1892. Pp. 120.

DRYSDALE, C. V. Neo-Malthusianism and eugenics. London: William Bell, 1912. Pp. 31.

———. Can everyone be fed? A reply to Prince Kropotkin. London: The Malthusian league, 1913. Pp. 14.

———. The small family system, is it injurious or immoral? With thirteen diagrams of population movements, etc., at home and abroad, and Prefatory note by Dr. Binnie Dunlop. London: A. C. Fifield, 1913. Pp. 119.

———. Wages and the cost of living. A paper written for the economic and statistical section of the British association meeting at Birmingham in September, 1913, and rejected by the organising committee. London: The Malthusian league, 1913. Pp. 48.

[Drysdale, George R.] The elements of social science; or, physical, sexual, and natural religion. By a graduate of medicine. Seventh edition enlarged. London: E. Truelove, 1867. Pp. xii+592.

———. The elements of social science; or, physical, sexual and natural religion. An exposition of the true cause and only cure of the three primary social evils: poverty, prostitution, and celibacy. By a doctor of medicine. Twenty-fourth edition, enlarged. London: E. Truelove, 1885. Pp. xii+604.

Duncan, J. Matthews. Fecundity, fertility, sterility and allied topics. Edinburgh: Adam and Charles Black, 1866. Pp. xvi+378.

———. Fecundity, fertility, sterility and allied topics. Second edition, revised and enlarged. Edinburgh: Adam and Charles Black, 1871. Pp. xvi+498.

Early marriage and late parentage the only solution of the social problem. By "Oxoniensis." New edition. London: George Standring, 1906. Pp. 23.

Eden, William. A fifth letter to the Earl of Carlisle, from William Eden, Esq. On population; on certain revenue laws and regulations connected with the interests of commerce; and on public œconomy. Dublin: W. and H. Whitestone, W. Sleater, J. Williams, W. Wilson, G. Burnet, C. Jenkin, J. Beatty, J. Valance, J. Sheppard, P. Wogan, L. White, P. Byrne, and R. Burton, 1780. Pp. 70.

Edmonds, T. R. Practical moral and political economy; or the government, religion and institutions most conducive to individual happiness and to national power. London: Effingham Wilson, 1828. Pp. viii+304.

EISDELL, J. S. A treatise on the industry of nations; or the principles of national economy and taxation. In two volumes. London: G. Whittaker and co., 1839. 2 v. Pp. x+613; iv+435.

An enquiry into the principles of population, exhibiting a system of regulations for the poor; designed immediately to lessen, and finally to remove, the evils which have hitherto pressed upon the labouring classes of society. London: James Duncan, 1832. Pp. xvi+336.

ENSOR, GEORGE. An inquiry concerning the population of nations: containing a refutation of Mr. Malthus's Essay on population. London: Effingham Wilson, 1818. Pp. viii+502.

Essays on the population of Ireland, and the characters of the Irish. By a member of the last Irish parliament. London: C. and R. Baldwin, 1803. Pp. 24.

EUGENICS RECORD OFFICE. Bulletin no. 1 [–11]. Cold Spring Harbor (N.Y.): 1911 [–1914].

Every woman's book; or, what is love? Fourth edition. London: R. Carlile, 1826. Pp. iv+38.

FERDY, [HANS]. Die künstliche Beschränkung der Kinderzahl als sittliche Pflicht. Als Manuscript gedruckte wissenschaftliche Abhandlung für Aerzte und Laien. Literatur-Bureau Hanau, 1889. Pp. 32.

———. Die Künstliche Beschränkung der Kinderzahl als sittliche Pflicht. Fünfte vollständig umgearbeitete Auflage. Berlin W., and Neuwied: Louis Heuser, 1897.

———. Sittliche Selbstbeschränkung, behagliche Zeitbetrachtungen eines Malthusianers über die begriffliche Wandlung des "moral restraint" in den Jahrhundert 1803–1903 und die Ausbreitung des Neo-Malthusianismus. Hildesheim: Verlag des Verfassers, 1904. Pp. 204.

———. Die Mittel zur Verhütung der Conception. Eine Studie für Aertzte und Geburtshelfer. Achte neu bearbeitete Auflage. (In zwei Theilen.) Theil I, Die Mittel. Leipzig: Max Spohr, 1907. Pp. 52.

FETTER, FRANK. Versuch einer Bevölkerungslehre ausgegend von einer Kritik des Malthus'schen Bevölkerungsprincips. Jena: Gustav Fischer, 1894. Pp. vii+97.

The fruits of philosophy. Translated from the Chinese, an antidote to the American edition issued by Mr. Bradlaugh and Mrs. Besant. London: W. Sutton, n.d. Pp. 32.

GALTON, FRANCIS. Hereditary genius: an inquiry into its laws and consequences. London: Macmillan and co., 1869. Pp. vi+390.

———. English men of science: their nature and nurture. London: Macmillan & co., 1874. Pp. xiii+270.

———. Natural inheritance. London and New York: Macmillan and co., 1889. Pp. ix+259.

———. Hereditary genius. An inquiry into its laws and consequences. Second edition. London and New York: Macmillan and co., 1892. Pp. xxvii+379.

———. Essays in eugenics. London: The Eugenics education society, 1909. Pp. 109.

GARDNER, EDWARD. Reflections upon the evil effects of an increasing population, upon the present high price of provisions, particularly corn; upon the bounty act, & upon the propriety of general inclosures; in which a mode is suggested of relieving the present necessities of the poor, upon the principles of equity. To which is added, an appendix, containing some remarks upon the subject of tythes; further observations upon population; and animadversions upon some late publications on the present scarcity. Gloucester: R. Raikes, 1800.

GODWIN, WILLIAM. An enquiry concerning political justice, and its influence on general virtue and happiness. In two volumes. London: G. G. J. and J. Robinson, 1793. 2 v. Pp. xiii+[22]+378; [22]+379–895.

———. The enquirer. Reflections on education, manners, and literature. In a series of essays. London: G. G. and J. Robinson, 1797. Pp. xii+481.

———. Thoughts occasioned by the perusal of Dr. Parr's spital sermon, preached at Christ Church, April 15, 1800: being a reply to the attacks of Dr. Parr, Mr. Mackintosh, the author of An Essay on population, and others. London: G. G. and J. Robinson, 1801. Pp. 82.

———. Of population. An inquiry concerning the power of increase in the numbers of mankind, being an answer to Mr. Malthus's essay on that subject. London: Longman, Hurst, Rees, Orme, and Brown, 1820. Pp. xvi+626.

GRAHAME, JAMES. An inquiry into the principle of population: including an exposition of the causes and the advantages of a tendency to exuberance of numbers in society, a defence of poor-laws, and a critical and historical view of the doctrines and projects of

the most celebrated legislators and writers, relative to population, the poor, and charitable establishments. Edinburgh: Archibald Constable and co; London: Longman, Hurst, Rees, Orme, and Brown, 1816. Pp. viii+332.

GRANCOIN, THEODORE. Des subsistances et des moyens de les mettre en équilibre avec la population. Paris: E. Marc-Aurel, 1850. Pp. vii+359.

GROTJAHN, A. Geburten-Rückgang und Geburten-Regelung. Im Lichte der individuellen und der sozialen Hygiene. Berlin: Louis Marcus Verlagsbuchhandlung, 1914. Pp. xiv+367.

H., M. G. Poverty: its cause and cure. Pointing out a means by which the working classes may raise themselves from their present state of low wages and ceaseless toil to one of comfort, dignity, and independence; and which is also capable of entirely removing, in course of time, the other principal social evils. London: E. Truelove, 1869. Pp. 16.

HALE, LORD CHIEF JUSTICE. Essay on population. *See* Chalmers, George.

HARDY, G. Malthus et ses disciples. Paris: Edition de génération consciente, 1912. Pp. 48.

HAUSEN, GEORG. Die drei Bevölkerungstufen. Ein Versuch, die Ursachen für des Bluhen und Altern der Völker nachzuweisen. Mit einem Plan. München: J. Lindauer'sche Buchhandlung, 1889. Pp. viii+407.

HAYNES, E. S. P. Modern morality and modern toleration. [Issued for the Rationalist press association, limited.] London: Watts & co., 1912. Pp. 24.

[HAZLITT, WILLIAM.] A reply to the essay on population, by the Rev. T. R. Malthus. In a series of letters. To which are added, Extracts from the essay; with notes. London: Longman, Hurst, Rees, and Orme, 1807. Pp. iv+378.

———. Political essays, with sketches of public characters. London: William Hone, 1819. Pp. xxxvi+439.

HERON, DAVID. Mendelism and the problem of mental defect. I. A criticism of recent American work. London: Dulau and co., 1913. (Dept. of applied statistics, University college, London. Questions of the day and of the fray. No. VII.) Pp. 62.

HERRENSCHWAND, [JEAN, i.e., JOHANN DANIEL CASPAR]. De l'économie politique moderne. Discours fondamental sur la population. Paris: Maradan, L'an IIIe de la République, [1794].

[Hickson, W. E.] Malthus. An essay on the principle of population in refutation of the theory of the Rev. T. R. Malthus. Reprinted from the "Westminster and foreign quarterly review" for October, 1849. Revised and enlarged by the author. London: Taylor, Walton, and Maberly, n.d. Pp. iv+77.

———. Malthus. An essay on the principle of population in refutation of the theory of the Rev. T. R. Malthus. London: Taylor, Walton, and Maberly, [1853?]. Pp. iv+77.

Holmes, J. R. True morality; or, the theory and practice of neo-Malthusianism. East Hanney, Wantage, Berkshire: The Author, [1892?]. Pp. 148.

Holyoake, George Jacob. The life and character of Richard Carlile. London: J. Watson, 1849. Pp. vi+40.

Howlett, John. An examination of Dr. Price's essay on the population of England and Wales; and the doctrine of an increased population in this kingdom, established by facts. To which is added an appendix. Containing remarks on Dr. Price's argument of a decreased produce of the hereditary and temporary excise. Maidstone: Printed for the Author by J. Blake; and sold by T. Payne and son, London [1781]. Pp. xii+156+xv.

Horton, R. Wilmot. *See* Wilmot-Horton.

Ichenhaeser, Justus. Ein Beitrag zur Übervölkerungsfrage. Berlin: Louis Heuser, 1888. Pp. 84.

Ingram, Robert Acklom. Disquisitions on populations; in which the principles of the Essay on population, by the Rev. T. R. Malthus are examined and refuted. London: J. Hatchard, 1808. Pp. 132.

Jarrold, T. Dissertations on Man, philosophical, physiological, and political; in answer to Mr. Malthus's "Essay on the principle of population." London: Cadell and Davis, Strand and Burditt, 1806. Pp. vi+367.

[Jaubert, L'abbé Pierre.] Des causes de la dépopulation et des moyens d'y remédier. Londres et Paris: Dessain Junior, 1767. Pp. xii+298.

Knowlton, Charles. Fruits of philosophy: or, the private companion of young married people. Reprinted from the American edition. Third edition. London: J. Watson, 1844. Pp. vi+40.

———. Fruits of philosophy. An essay on the population question. New edition, with notes. London: Freethought publishing co., n.d. Pp. viii+47.

KNOWLTON, CHARLES. Fruits of philosophy. An essay on the population question. New edition with notes and appendix. (Second impression of 10,000 copies.) London: R. Forder, 1898. Pp. ix +55. [Appendix incomplete in this copy.]

KUCZYNSKI, R. Der Zug nach der Stadt. Statistische Studien über Vorgänge der Bevölkerungsbewegung in Deutschen Reiche. Stuttgart: J. G. Cotta'schen Buchhandlung, 1897. Pp. xii+284.

DE LAPOUGE, G. VACHER. Les sélections sociales. Cours libre de science politique professé à l'université de Montpellier (1888–1889). Paris: A. Fontemoing, 1896. Pp. xii+503.

LAWSON, JAMES A. The over-population fallacy considered: a paper read before the Dublin statistical society. Dublin: Published for the society by Hodges and Smith, 1849. Pp. 9.

LEROY-BEAULIEU, PAUL. La question de la population. [Paris:] Felix Alcan, [1913]. Pp. iv+512.

LEVASSEUR, M. E. Les populations urbaines en France comparées à celles de l'étranger. Paris: Alphonse Picard, 1887. Pp. 90.

LEXIS, W. Abhandlungen zur Theorie der Bevölkerungs- und Moralstatistik. Jena: Gustav Fischer, 1903. Pp. 253.

The Lion. Volume I [nos. 1–26, Jan. 4—June 27; II, nos. 1–26, July 4—Dec. 26, 1828; III, nos. 1–26, Jan. 2—June 26; IV, nos. 1–26, July 3—Dec. 25, 1829]. London: Richard Carlile. [Weekly.]

LORIA, ACHILLE. Problèmes sociaux contemporains. Avec une preface de Réne Worms. Paris: V. Giard et E. Brière, 1897. Pp. 174.

LOUDON, CHARLES. Solution du problème de la population et de la subsistance, soumise à un médecin dans une série des lettres. Paris: Girard frères, 1842. Pp. 336.

LOWE, JOSEPH. The present state of England in regard to agriculture, trade, and finance; with a comparison of the prospects of England and France. Second edition, with various additions and emendations. London: Longman, Hurst, Rees, Orme, and Brown, J. Richardson; Edinburgh: Constable and co., 1823. Pp. xxviii+418+[106].

[MALTHUS, T. R.] An essay on the principle of population, as it affects the future improvement of society. With remarks on the speculations of Mr. Godwin, M. Condorcet, and other writers. London: J. Johnson, 1798. Pp. v+ix+396.

———. An essay on the principle of population; or, a view of its past and present effects on human happiness; with an inquiry into

our prospects respecting the future removal or mitigation of the evils which it occasions. A new edition very much enlarged. London: J. Johnson, 1803. Pp. viii+610.

———. An essay on the principle of population; or, a view of its past and present effects on human happiness; with an inquiry into our prospects respecting the future removal or mitigation of the evils which it occasions. In three volumes. The fifth edition with important additions. London: John Murray, 1817. 3 v. Pp. xvi+496; iv+507; iv+500.

———. An essay on the principle of population; or, a view of its past and present effects on human happiness; with an inquiry into our prospects respecting the future removal or mitigation of the evils which it occasions. Sixth edition. In two volumes. London: John Murray, 1826. 2 v. Pp. xviii+535; iv+528.

———. An essay on the principle of population, or a view of its past and present effects on human happiness, with an inquiry into our prospects respecting the future removal or mitigation of evils which it occasions. Reprinted from the last edition revised by the author. With a biography of the author, full analysis and critical introduction, by G. T. Bettany, M.A., B.Sc. London: Ward, Lock & co., Ltd., n.d. Pp. xlii+614.

———. Parallel chapters from the first and second editions of An essay on the principle of population by T. R. Malthus, 1798: 1803. New York and London: Macmillan and co., 1895. (Economic Classics. Edited by W. J. Ashley.) Pp. xix+134.

———. Essai sur le principe de population par Malthus; traduit de l'Anglais par Mm. P. et G. Prevost, précédé d'une introduction, par M. Rossi, et d'une notice sur la vie et les ouvrages de l'auteur, par Charles Comte, avec les notes des traducteurs et de nouvelles notes par M. Joseph Garnier. Paris: Guillaumin Librarie, 1845.

———. Essai sur le principe de population. Paris: Guillaumin et cie, [1889]. Pp. lviii+206.

———. Versuch über die Bedingung und die Folgen der Volksvermehrung .... aus dem Englischen von Dr. F. H. Hegewisch. Altona: J. F. Hammerich, 1807. 2 v. in one. Pp. xvi+368; viii+358.

———. A letter to Samuel Whitbread, Esq. M. P. on his proposed bill for the amendment of the poor laws. London: J. Johnson, and J. Hatchard, 1807. Pp. 40.

MALTHUS, T. R. Observations on the effects of the corn laws, and of a rise or fall in the price of corn on the agriculture and general wealth of the country. London: J. Johnson and co., 1814. Pp. 44.

———. The grounds of an opinion on the policy of restricting the importation of foreign corn; intended as an appendix to "Observations on the corn laws." London: John Murray, and J. Johnson and co., 1815. Pp. 48.

———. An inquiry into the nature and progress of rent, and the principles by which it is regulated. London: John Murray, 1815. Pp. 61.

———. Statements respecting the East-Indian college, with an appeal to facts, in refutation of the charges against it, in the court of proprietors. London: John Murray, 1817. Pp. vii+105.

———. Principles of political economy considered with a view to their practical application. London: John Murray, 1820. Pp. vi+601.

———. Principles of political economy considered with a view to their practical application. Second edition with considerable additions from the author's own manuscript and an original memoir. London: William Pickering, 1836. Pp. liv+446.

———. Principes d'économie politique, considérés sous le rapport de leur application pratiques. Traduits de l'anglais par M. F. S. Constancio, D. M. Paris: J.-P. Aillaud, librarie, 1820. 2 v. Pp. xxxii +501; 452.

———. A summary view of the principle of population. London: John Murray, 1830. Pp. iv+77.

———. Questions on modern history by Professor Malthus of the East India College at Hertford given to me by one of the students in M.S. George Rooke, son of the late Judge. Pp. 38, unnumbered. (Manuscript of what is probably a student notebook.)

The Malthusian handbook, designed to induce married people to limit their families within their means. Fourth edition. London: W. H. Reynolds, 1898. Pp. 46.

MALTHUSIAN LEAGUE. Thirty-fourth annual report of the Malthusian league. Presented to the members and friends at the annual meeting on May 22nd, 1912, by the President Dr. Alice Drysdale Vickery. London: William Bell, 1912. Pp. 32.

———. Thirty-fifth annual report of the Malthusian league. Presented to the members and friends at the annual meeting on May

15, 1913, by the President Dr. Alice Drysdale Vickery. London: Printed by St. Clements press Ltd., [1913]. Pp. 18.

MANNING, WILLIAM. The wrongs of man exemplified; or, an enquiry into the origin, the cause, and the effect, of superstition, conquest, and exaction, separate and united; and the injustice they have operated on the condition of man in a state of society. With an appendix, in which the false doctrine attempted to be established by Malthus, in his Essay on population is refuted; and an attempt made to prove what ought to constitute the leading principles of political economy. London: R. Wilks, 1838. Pp. x+34.

MARTINEAU, HARRIET. Illustrations of political economy. No. VI. Weal and woe in Garveloch. A tale. London: Charles Fox, 1832. Pp. 140.

VON MAYR, GEORG. Die Gesetzmäszigkeit in Gesellschaftsleben. Statistische Studien. München: R. Oldenbourg, 1877. Pp. xii+354.

———. Statistik und Gesellschaftslehre. Dritter Band. Moralstatistik und Einschlusz der Kriminalstatistik. Tübingen: J. C. B. Mohr (Paul Siebeck), 1917. Pp. viii+1042.

M'CULLOCH, J. R. The principles of political economy: with a sketch of the rise and progress of the science. Edinburgh: William and Charles Tait; London: Longman and co., 1825. Pp. x+423.

MCINISCON, JOHN. Principles of political economy, and of population: including an examination of Mr. Malthus's essay on those subjects. By John McIniscon, a fisherman. In two volumes. London: Sherwood, Jones, and co., 1825. 2 v. Pp. xxiv+iv+396; vii+442.

MENSINGA, DR. 100 Frauenleben in der Beleuchtung des 1354b des Bürgerlichen Gesetzbuches. Eine Studie für Kliniker, auch für praktische Ärtze. Neuwied und Leipzig: L. Heuser & co., n.d. Pp. 166.

MILL, JAMES. Elements of political economy. London: Baldwin, Cradock, and Joy, 1821. Pp. viii+240.

———. Elements of political economy. Second edition, revised and corrected. London: Baldwin, Cradock, and Joy, 1824. Pp. viii+304.

———. Essays on I. Government, II. Jurisprudence, III. Liberty of the press, IV. Prisons and prison discipline, V. Colonies, VI.

Law of nations, VII. Education. Reprinted, by permission, from The Supplement to the Encyclopaedia Britannica. Not for sale. London: Printed by J. Innes [1825?]. Numbered separately.

MILL, JOHN STUART. Principles of political economy with some of their applications to social philosophy. In two volumes. London: John W. Parker, 1848. 2 v. Pp. xvi+593; xv+549.

———. Autobiography. London: Longmans, Green, Reader, and Dyer, 1873. Pp. vi+313.

MINTON, FRANCIS. Capital and wages. London: Keegan Paul, Trench & co., 1888. Pp. xxiv+441.

[MIRABEAU, VICTOR RIQUETTI, MARQUIS DE.] L'ami des hommes, ou traité de la population. Avignon, 1756. [Three parts.] Pp. vi+156; 218; 216, wrongly numbered 158.

———. L'ami des hommes. Quatrième partie [1758]. Pp. 278+81.

MOMBERT, PAUL. Studien zur Bevölkerungsbewegung in Deutschland in den letzten Jahrzehnten mit besonderer Berücksichtigung der ehelichen Fruchtbarkeit. Karlsruhe: G. Braunsche Hofbuchdruckerei und Verlag, 1907. Pp. 280.

MORETON, A. H. Civilization or, A brief analysis of the natural laws that regulate the numbers and condition of mankind. London: Saunders and Otley, 1836. Pp. 216.

NEISON, F. G. P. Contributions to vital statistics: being a development of the rate of mortality and the laws of sickness; from original and extensive data procured from Friendly Societies. Showing the instability of Friendly Societies, "Odd Fellows," Rechabites, etc. with an inquiry into the influence of locality on health. Second edition London: Simpkin, Marshall and co., 1846. Pp. vii+148.

NEWENHAM, THOMAS. A statistical and historical inquiry into the progress and magnitude of the population of Ireland. London: C. and R. Baldwin, 1805. Pp. vi+xix+360.

NICEFORO, ALFREDO. La méthode statistique et ses applications aux sciences naturelles aux sciences sociales et à l'art. Traduit de l'Italien par R. Jacquemin. Paris: Marcel Giard, 1925. Pp. viii +652.

Notes on the population question. By Anti-Marcus. London: J. Watson, 1841. Pp. vii+44.

Opinions of eminent men on the cause of poverty and its cure. [Issued by the Malthusian league, n.d.]

The over-population craze. A refutation and a plea. By Anti-Malthusian. Dedicated by permission to Thomas Carlyle. London: Charles Watts [1878?]. Pp. 32.

OWEN, ROBERT. The life of Robert Owen. Written by himself. With selections from his writings and correspondence. Volume I. London: Effingham Wilson, 1857. Pp. xliv+390.

———. A supplementary appendix to the first volume of The Life of Robert Owen. Containing a series of reports, addresses, memorials, and other documents, referred to in that volume. 1803–1820. Volume I. A. London: Effingham Wilson, 1858. Pp. xxxviii +358.

OWEN, ROBERT DALE. Moral physiology; or, a brief and plain treatise on the population question. Corrected and reprinted from the sixth American edition. London: James Watson, 1832. Pp. iv+52.

———. Moral physiology; or, a brief and plain treatise on the population question. London: J. Watson, 1844. Pp. iv+48.

PATTEN, SIMON N. The consumption of wealth. Second edition. Philadelphia: University of Pennsylvania, 1901. (Publications of the University of Pennsylvania. Series in Political economy and Public Law.) Pp. viii+70.

PAYNE, JOHN ORLEBAR. Collections for a History of the Family of Malthus. London: privately printed, 1890. Pp. xii+154.

PEARSON, KARL. The problem of practical eugenics. London: Dulau & co., 1909. (University of London. Eugenics laboratory lecture series. V). Pp. 38.

———. The academic aspect of the science of national eugenics. A lecture delivered to undergraduates. London: Dulau & co., 1911. (University of London. Eugenics laboratory lecture series, VIII.) Pp. 27.

———. Mendelism and the problem of mental defect. III. On the graduated character of mental defect and on the need for standardizing judgments as to the grade of social inefficiency which shall involve segregation. London: Dulau and co., 1914. (Dept. of applied statistics, University college, London. Questions of the day and of the fray. No. IX.) Pp. 51.

PEARSON, KARL, AND GUSTAV A. JAEDERHOLM. Mendelism and the problem of mental defect. II. On the continuity of mental defect. London: Dulau and co., 1914. (Dept. of applied statistics,

University college, London. Questions of the day and of the fray. No. VIII.) Pp. 47.

PIERPONT, RAYMOND, ed. Report of the fifth international neo-Malthusian and birth control conference, Kingsbury Hall, London, July 11th to 14th, 1922. London: William Heineman Ltd., 1922.

PLACE, FRANCIS. Illustrations and proofs of the principle of population: including an examination of the proposed remedies of Mr. Malthus, and a reply to the objections of Mr. Godwin and others. London: Longman, Hurst, Rees, Orme, and Brown, 1822. Pp. xv+280.

The political economist; and journal of social science. Edited by the author of "Physical, sexual, and natural religion." No. 1, January, 1856 [—no. 14, March, 1857. London: E. Truelove].

Political and literary examiner. Conducted by J. T. Dunning. No. 1, Saturday, October 5, 1839.

Population Returns of 1831, with a statement of progress in the enquiry regarding the occupation of families and persons, and the duration of life; an historical and descriptive account of London, Westminster, and other parts of the Metropolis; a comparative account of the population of Great Britain, in 1801, 1811, 1821 & 1831; . . . . and a summary of the population of Great Britain in 1801, 1811, 1821, and 1831. To which is added, an appendix containing a detailed description of the effects of the cholera morbus in England, in the fourteenth century. Extracted from the History of Edward III., by Joshua Barnes, B.D., 1688. With maps and plans. As printed for the House of Commons. London: E. Moxon, 1832. Pp. 100.

POULSON, EDWARD. The history of the elements of social science . . . . , including a history of modern atheistic literature . . . . and a reply to J. Syme's pamphlet on the Secular lecture hall scandal at Leeds. London: John Kensit, 1892. Pp. 24+vi.

PRICE, RICHARD. An essay on the population of England, from the Revolution to the present time. With an appendix, containing remarks on the account of the population, trade and resources of the kingdom, in Mr. Eden's Letters to Lord Carlisle. London: T. Cadell, 1780. Pp. v+82. Bound in the same volume is a letter "To the gentlemen of the Huntingdonshire committee," dated Dublin, Feb. 27, 1780, signed Carysfort. Pp. 19.

A Private letter from E. B. to J. S. on the birth-rate question. Lon-

don: Geo. Standring, 1905. Pp. 23. [Reprinted from *The Malthusian*, in which it appeared serially between September, 1904 and March, 1905.]

PURVES, GEORGE. Gray versus Malthus. The principles of population and production investigated: and the questions, does population regulate subsistence, or subsistence population; has the latter in its increase, a tendency to augment or diminish the average quantum of employment and wealth; and should government encourage or check early marriage; discussed. . . . . London: Longman, Hurst, Rees, Orme, and Brown; Edinburgh: Constable and co., 1818. Pp. xi+496.

QUETELET, A. Sur l'homme et le developpement de ses facultés, ou essai de physique sociale. Paris: Bachelier, 1835. 2 v. Pp. xii+327; viii+327.

RAVENSTONE, PERCY. A few doubts as to the correctness of some opinions generally entertained on the subjects of population and political economy. London: John Andrews, 1821. Pp. iv+474.

REDFIELD, CASPER L. How physical and mental powers develop from generation to generation. (Reprinted from Western medical times.) N.d. Pp. [3].

REICH, EDUARD. Die Fortplanzung und Vermehrung des Menschen aus dem Gesichtspunkte der Physiologie und Bevölkerungslehre betrachtet. Jena: Hermann Costenoble, 1880. Pp. xiii+370.

Remarks on a late publication entitled "An essay on the principle of population; or, a view of its present and past effects on human happiness. By T. R. Malthus, A. M. Fellow of Jesus college, Cambridge." London: R. Bickerstaff, 1803. Pp. 62.

Report from the select committee on the poor laws; with the minutes of evidence taken before the committee. Ordered by the House of Commons to be printed, July 4, 1817, London: C. Clement, n.d. Pp. 240.

The Republican. Ed. by R. Carlile. Vol. I, Aug. 27, 1819 [–vol. XIV, Dec. 29, 1826]. London: T. Davison [and others, after vol. II], 1819–1826.

RICARDO, DAVID. On the principles of political economy and taxation. London: John Murray. 1817. Pp. viii+589.

———. Letters of David Ricardo to Thomas Robert Malthus. James Bonar, ed. Oxford: Clarendon press, 1887. Pp. xxiv+251.

RICHERAND, [ANTHELME BALTHASAR,] M. LE BARON. De la population dans ses rapports avec la nature des gouvernuemens. Paris: Béchet jeune, 1837. Pp. xii+349.

RICKARDS, GEORGE K. Population and capital; being a course of lectures delivered before the University of Oxford in 1853–4. London: Longman, Brown, Green, and Longmans, 1854. Pp. xvi +259.

ROBERTS, HARRY. Population and social reform, being a few plain words on a suppressed subject. London: R. Forder, 1892. Pp. 22.

ROBINSON, VICTOR. Pioneers of birth control in England and America. New York, Voluntary parenthood league, 1919. Pp. 107.

ROCHARD, JULES. La depopulation de la France. Conférence faite à la Sorbonne le 22 Février. Paris: Gauthier-Villars, 1887. (Association française pour l'avancement des sciences.) Pp. 27.

ROSS, J. C. An examination of opinions maintained in the "Essay on the principles of population," by Malthus; and in the "Elements of political economy," by Ricardo; with some remarks in reply to Sir James Graham's "Address to the land-owners." In two volumes. London: J. M. Richardson, 1827. 2 v. Pp. xxiv+iv+ 396+iv; vi+442+v.

ROUT, ETTIE A. Safe marriage a return to sanity. With a preface by Sir William Arbuthnot Lane. Third edition. London: William Heinemann, 1923. Pp. 97.

ROUTH, C. H. F. The moral and physical evils likely to follow if practices intended to act as checks to population be not strongly discouraged and condemned. Reprinted from The Medical press and circular, Oct., 1878. London: Baillière, Tindall, & Cox, 1879.

RUBIN, MARCUS, UND HARALD WESTERGAARD. Statistik der Ehen auf Grund der socialen Gliederung der Bevölkerung. Nach Volkszälungen und Kirchenbüchern in Danemark. Jena: Gustav Fischer, 1890. Pp. 132.

SADLER, MICHAEL THOMAS. A refutation; of an article in the Edinburgh review (no. CII.) entitled 'Sadler's law of population and disproof of human superfecundity.' London: John Murray, 1830. Pp. vii+103.

———. Ireland; its evils, and their remedies: being a refutation of the errors of the emigration committee and others, touching that country. To which is prefixed, a synopsis of an original treatise about to be published on the law of population; developing the

real principle on which it is universally regulated. Second edition. London: John Murray, 1829. Pp. lvii+464.

SANGER, MARGARET H. Family limitation. Revised, sixth edition. 1917. Pp. 16.

SAXE, [MAURICE,] FIELD-MARSHAL COUNT. Reveries, or memories upon the art of war. To which are added some original letters, upon various military subjects, wrote by the Count to the late King of Poland, and M. de Folard, which were never before made publick: together with his reflections upon the propagation of the human species. Translated from the French. London: J. Nourse, 1757. Pp. x+195.

SCHNAPPER-ARNDT, GOTTLIEB. Sozialstatistik (Vorlesungen über Bevölkerungslehre, Wirtschafts- und Moralstatistik). Ein Lesebuch für Gebildete insbesondere für Studierende herausgegeben von Dr. Leon Zeitlin. Leipzig: Dr. Werner Klinkhardt, 1912. Pp. xxii+642.

SCHÖNE, LUCIEN. Histoire de la population française, avec une préface de M. E. Levasseur. Paris: Arthur Rousseau, 1893. Pp. xvi +428.

SCROPE, G. POULETT. Principles of political economy, reduced from the natural laws of social welfare, and applied to the present state of Britain. London: Longman, Rees, Orme, Brown, Green, & Longman, 1833. Pp. xxiv+457.

SENIOR, NASSAU WILLIAM. Two lectures on population, delivered before the University of Oxford in Easter term, 1828. To which is added a correspondence between the author and the Rev. T. R. Malthus. London: Saunders and Otley, 1829. Pp. 90.

———. Political economy. In Encyclopaedia Metropolitana; or, System of universal knowledge: on a methodical plan projected by Samuel Taylor Coleridge. Second edition, revised. First division. Pure sciences. Political economy. London: John Joseph Griffin & co.; Glasgow: Richard Griffin, 1850. Pp. viii+231.

Sermons preached before friendly and charitable societies in the country: and written chiefly with the view of illustrating the principles delivered by Mr. Malthus, in his Essay on population; of showing their accordance with the precepts of Christianity; and of making them familiar to the understanding of the lower orders. By a clergyman of the established church. London: J. Hatchard and son, 1820. Pp. xi+168.

STANDRING, GEORGE. An atheist at church, being a series of light-hearted sketches of public worship. London: Robert Forder, 1894. Pp. 44. [Reprinted from *National reformer*.]

SUMNER, JOHN BIRD. A treatise on the records of the creation, and on the moral attributes of the creator; with particular reference to the Jewish history, and to the consistency of the principle of population with the wisdom and goodness of the deity. In two volumes. Fifth edition. London: J. Hatchard and son, 1833. 2 v. Pp. xxviii+388; xi+444.

TALLQVIST, J. V. Recherches statistiques sur la tendance à une moindre fécondité des marriages. Thèse présenté à la faculté de philosophie de l'Université de Helsingfors. Helsingfors: J. C. Frenckell et fils, 1886. Pp. [iv]+117+xix.

THOMPSON, WILLIAM. An inquiry into the principles of the distribution of wealth most conducive to human happiness; applied to the newly proposed system of voluntary equality of wealth. London: Longman, Hurst, Rees, Orme, Brown, and Green, and Whatley and Adlard, 1824. Pp. xxiv+600.

———. Appeal of one half the human race, women, against the pretensions of the other half, men, to retain them in political and thence in civil and domestic slavery; in reply to a paragraph of Mr. Mills celebrated "Article on government." London: Longman, Hurst, Rees, Orme, Brown, and Green, 1825. Pp. xvi+221.

THORNTON, WILLIAM THOMAS. Over-population and its remedy; or, an inquiry into the extent and causes of the distress prevailing among the labouring classes of the British islands, and into the means of remedying it. London: Longman, Brown, Green, and Longman's, 1846. Pp. xi+446.

THUDICHUM, FRIEDRICH. Über anzulässige Beschränkungen des Rechts der Verehelichung. Tübingen: H. Laupp'schen Buchhandlung, 1866. Pp. x+146.

TRUELOVE, EDWARD. The Queen v. Edward Truelove, for publishing the Hon. Robert Dale Owen's "Moral physiology," and a pamphlet, entitled "Individual, family, and national poverty." (Specially reported.) [In the High Court of Justice. Queen's bench division, February 1, 1878.] London: Edward Truelove, 1878. Pp. viii+125.

TWISS, TRAVERS. On certain tests of a thriving population. Four lectures delivered before the University of Oxford, in Lent term,

1845. London: Longman, Brown, Green, and Longmans, 1845. Pp. 107.

UNIVERSITY COLLEGE, LONDON. DEPARTMENT OF APPLIED MATHEMATICS. Questions of the day and of the fray. No. 1 [–5]. London: Dulau and co., 1910 [–1912]. Paged separately.

UNIVERSITY OF LONDON. Galton laboratory for national eugenics. Eugenics laboratory lecture series. I [–XII]. London: Dulau and co., 1909 [–1912].

[WALLACE, ROBERT.] A dissertation on the numbers of mankind in antient and modern times: in which the superior populousness of antiquity is maintained. With an appendix, containing additional observations on the same subject, and some remarks on Mr. Hume's political discourse, Of the populousness of antient nations. Edinburgh: G. Hamilton and J. Balfour, 1753. Pp. iv+331.

———. Various prospects of mankind, nature, and providence. London: A. Millar, 1761. Pp. vi+406.

WALLAS, GRAHAM. The life of Francis Place. London, New York, and Bombay: Longmans, Green, and co., 1898. Pp. x+415.

The way to be rich and respectable. Addressed to men of small fortune. The second edition. London: Printed for the author; and sold by R. Baldwin, [1750?]. Pp. 48.

WESTERGAARD, HARALD. Die Lehre von der Moralität und Morbilität. Anthropologisch-Statistische Untersuchungen. Zweite vollständig umgearbeitete Auflage. Jena: Gustav Fischer, 1901. Pp. 4+702.

[WEYLAND, JOHN JUN.] A short inquiry into the policy, humanity and past effects of the poor laws; and into the principles upon which any measures for their improvement should be conducted; in which are included a few considerations on the questions of political œconomy, most intimately connected with the subject; particularly on the supply of food in England. By one of his Majesty's justices of the peace for three inland counties. London: J. Hatchard, F. C. and J. Rivington, and J. Asperne, 1807. Pp. xlii+382.

———. Observations on Mr. Whitbread's Poor bill, and on the population of England: intended as a supplement to A short inquiry into the policy, humanity, and past effects of the poor

laws, &c. By the author of that work. London: J. Hatchard, 1807. Pp. 65.

WEYLAND, JOHN JUN. The principles of population and production, as they are affected by the progress of society, with a view to moral and political consequences. London: Baldwin, Cradock, and Joy, 1816. Pp. xl+493.

WHATLEY, RICHARD. Introductory lectures on political economy, delivered in Easter term, MDCCCXXXI. Second edition, including lecture IX, and other additions. London: B. Fellowes, 1832. Pp. xvi+279.

WHETHAM, WILLIAM CECIL DAMPIER, AND CATHERINE DURNING WHETHAM. An introduction to eugenics. Cambridge: Bowes and Bowes; London: Macmillan and co., Ltd.; Glasgow: James Maclehose and sons, 1912. Pp. viii+66.

WHITBREAD, [SAMUEL]. Substance of a speech on the poor laws: delivered in the House of Commons, on Thursday, February 19, 1807. With an appendix. London: J. Ridgway, 1807. Pp. 107.

The wife's medical adviser. New and revised edition. Seventeenth edition. London: G. Standring, 1905. Pp. 64.

WILMOT-HORTON, [ROBERT JOHN]. The causes and remedies of pauperism in the United Kingdom considered: Introductory series. Being a defence of the principles and conduct of the emigration committee against the charge of Mr. Sadler. London: Edmund Lloyd, 1830. Pp. viii+112+xxiv.

WINSHIP, A. E. Jukes-Edwards, a study in education and heredity. Harrisburg [Pa.]: R. L. Meyers & co., 1900. Pp. 88.

WOLTMANN, LUDWIG. Politische Anthropologie. Eine Untersuchung über den Einfluss der Descendenz theorie auf die Lehre von der politischen Entwicklung der Völker. Eisenach und Leipzig: Thuringische Verlags-Anstalt, 1903. Pp. iv+326.

ZUMPT, C. G. Über den Stand der Bevölkerung und die Volksvermehrung im Alterthum. [Eine in der Königl. Preussischen Akademie der Wissenschaften gelesene Abhandlung.] Berlin: Ferdinand Dümmler, 1841.

INDEX

INDEX

Agricultural increase, *see Essay on Population*

Aimé, Benjamin, 103, 105, 124

Alcoholism, hereditary factor in, 160, 177, 204

Alison, Archibald, 23, 42, 58, 59, 64, 65

"A.M.," 125

American Breeders' Association, Eugenic Section, 164–65

American Prison Association, 163

Ammain, *see* Standard of living

Ammon, Otto, 188, 189

Archiv für Rassen- und Gesellschafts-Biologie, 189

Artificial selection, 130–31, 137, 139, 142, 192, 281; *see also* Darwinian theory of evolution, natural selection

Atwater, W. O., 393

"A.Z.," 125

Bagehot, Walter, 37

Bain, Alexander, 224

Barker, Joseph, 219

Bell, Alexander Graham, 163

Bentham, Jeremy, 124, 125 n., 126, 129, 208, 217, 253 n.

Benthamite group, 124

Besant, Annie, 53, 91, 211, 212, 216, 220, 222, 224, 225, 226; *see also* Bradlaugh

Biochemistry, 247

Biology, contribution to eugenics, 138, 147, 153, 196, 180 ff,. 193

Biometric Laboratory, 155, 156

Biometric method, 146, 154, 161, 181, 203

and Mendelian method compared, 161–62

see also Eugenics, method

Biometrika, establishment of, 147

Birth:

a concern of primitive peoples, 272

as a factor in determining quality and quantity of population, 295–300

Is reproduction instinctive? 297–99

population problems stated in terms of birth and death, 290

Birth-control, 45–53, Essays III, VI, VII, XII

attitude of Malthus toward, 93–94

attitude of medical profession, 325–26

attitudes of religious bodies, 323 n.

breaks continuity of reproductive process, 298–99

conflict with free-speech and free-thought movements, 309

contraceptive technique, 324–28

differential effect on population, 319

economic motives, 244, 279, 317

effect of practice of, upon Malthusian argument, 10

effect of prosecutions, 211–14, 215 ff., 221, 226–27, 328

eugenic aspects, 179, 227, 322, 327

and the family, 299

and feminism, 317, 320–21

and health, 322, 327

history of movement, 45–53, Essays III, VI, VII

and individual liberty, 319–20

leadership of women in movement, 233

Birth-control (*continued*)
legislation regarding, 234
and marriage, 299
modern movement characterized, 327
morality of, 221, 225–26, 308–9, 322–24
non-economic motives, 317
and poverty, 217, 313, 317–18
in relation to standards of living, 319
an unnatural practice, 322–24
an urban phenomenon, 307
see also Essay on Population, physical restraint; *Essay on Population*, Criticism of, physical restraint; Neo-Malthusianism; Secularists
Birth control investigation committee, 326 n.
Birth-rate:
decline of,
beginnings, 93
and birth-control propaganda, 223–24, 225
and cultural survival, 279
in France, 230
neo-Malthusian development of preventive check, 275
and neo-Malthusian prosecutions, 9, 212–13
and "race suicide," 275
differential,
adversely selective, 76, 159, 178–79
eugenic aspects, 198
among foreign-born, 234
among well-to-do, 236 ff., 276
"race" suicide, 275
in the United States, 85, 233
see also Essay on Population, criticism of, differential increase; Eugenics; Natural selection
reaction of war upon, 229, 232
revival in France following Napoleonic wars, 229
and standard of living, 233, 396
Births:
multiple, 202
registration of, 202
rhythm in, 260–61
Bonar, James, 2, 15 n., 49, 254, 255 n
Bonner, Hypatia Bradlaugh, 124 n.
Booth, David, 4, 39, 52, 127
Bowley, A. L., 345, 366 n.
Bradlaugh, Charles, 53, 91, 211–26
Bradlaugh-Besant trial, *see* Bradlaugh; Besant
Brinton, Willard C., 366 n.
British Association for the Advancement of Science, 236

Cairnes, John Elliot, 14
Campion, William, 51
Candolle, Alphonse de, 141, 142
Cannan, Edwin, 8, 11, 14, 31
Capital punishment, 291
Carey, H. C., 396
Carlile Richard, 4, 38, 48–51, 96 n., 97, 98 n, 100, 104–6, 111 n., 116–21, 124, 127, 128, 209, 217, 218, 310
Carlile, Mrs. Richard, 218
Carr-Saunders, A. M., 301
Carver, T. N., 388, 393, 394
Caste, 139, 172, 193, 194, 288
Celibacy, 71, 73, 135, 152, 174, 211, 313, 314, 324
Chalmers, Thomas, 81
Chartists, 34, 113
Checks to population growth, *see Essay on Population; Essay on Population*, criticism of
Chicago Gynecological Society, 206
Chicago Medical Society, 206
Child labor, 245, 279
Christie, W. D., 125 n., 126
Churchill, Winston, 393

City Club of Chicago, 206
Clark, A., 48 n.
Cobbett, William, 39, 51, 73, 95 n., 104, 105, 113, 120, 121, 124, 218
Cockburn, Lord Chief Justice, 211, 220, 221, 225
Collett, (Rev.) Anthony, 113
Collins trial, 224, 225
Comte, Charles, 255 n.
Condorcet, M. J. 253, 254, 257, 258, 259, 263
263
Congress of National Health, Eugenics Section, 170
Conrad, E., 189
Consumption:
extension of, 390
norms of, 393–94
reaction of elaborate standards on fertility, 396
see also Standard of living
Contraception, 296; *see also* Birth-control
Cooper, James F., M.D., 325 n.
Crackanthorpe, Montague, 171
Crime, hereditary factor in, 204

Darwin Charles, 75, 84, 132, 136, 138, 144, 270
Darwinian theory of evolution:
idea of the struggle for existence inspired by Malthus, 72
natural selection in the case of man, 75
natural selection foreshadowed, 71, 72
origin of species, 82
relation to eugenics, 132, 154, 270, 281
relation to Malthusianism, 72, 80, 84
relation to neo-Malthusianism, 270, 310–11
see Darwin; Artificial selection; Eugenics; *Essay on Population; Essay on Population*, criticism of
Davenport, Charles B., 165, 166, 182, 185
Death, 200, 272, 290, 306
biological consequences of age of, 294–95
causes of, 202
from consumption, 204
economic significance of age of, 293–94
as factor in population policies, 33–35, 291–95
methods of invoking, 291
see also Essay on Population; Essay on Population, criticism of; Infanticide
Death-rate:
costliness of maintaining a population by a high birth-rate combined with a high death-rate, 292–93
decrease in England in nineteenth century, 291
in selected countries, 293
registration of, 202
rhythm in, 260–61
Degeneracy, 131, 135, 140, 142, 147, 158, 167, 171, 175, 176, 177, 186; *see also* Artificial selection; Democracy
Democracy:
effect on population, 135, 136
influence on population theory, 132
in relation to eugenics, 194, 281
Demography, 187; in relation to eugenics, Essay V, 198 ff.
Denmark, birth-rate and death-rate, 292
Depopulation, 200, 271
De Quincey, Thomas, 13, 14
Deutsche Gesellschaft für Rassenhygiene, 189
Diabolical Handbill, 79, 108, 116, 126, 209, 217
authorship of, 102–8
history of, 47–51, 95 ff.

Dickinson, Dr. R. L., 326 n.
Differential fertility, *see* Differential increase; *Essay on Population*, criticism of
Differential increase, 132, 150, 199
  effect on quality of population, 135
  see also Artificial selection; *Essay on Population*, criticism of
Differential restraint, *see Essay on Population*, criticism of
Diminishing returns, *see Essay on Population; Essay on Population*, criticism of
Division of labor, 237–38, 244; *see also Specialization*
Divorce, 274
Doubleday, 10, 66, 67, 70, 396
Drysdale, Charles R., 123 n., 223, 224
Drysdale, George, 123, 210, 211, 212, 219, 313, 314
Dumont, M., 390
Dysgenic traits, *see* Eugenics

Economic equality, 3–4. *See also*, Social inequality; Socialistic reforms; Socialistic theory of population
Economic incentive to parenthood, 244 ff., 278–79
Economic motives:
  indirect, 237, 238
  to practice of birth control, 317 ff.
  to practice of preventive check, 53–59
Economic specialization, 240–41
  human reproduction reorganized as one form of, 244
  see also Division of labor; Specialization
Economic standards:
  adverse to reproduction, 273
  compared with eugenic standards, Essay IX, 236 ff., 247
  see also Success
Economic system:
  aim of, 237
  dictator of the ends of life, 274
  sets goals in proximate terms, 274
  unfitted to deal with dilemma of individuation versus genesis, 274
Economic theory:
  place in graduate work, 331 ff.
  relation to statistical method, 341
Economic valuation, 236; sets ideals of achievement, 238
Economic value, 240
Ectogenesis, 247
Edmonds, Thomas Rowe, 39
Elderton, Ethel M., 156
Elliot, Hugh S. R., 126 n.
Ely, Richard T., 388, 389, 393, 395
Empson, William, 256 n.
England, birth-rate and death-rate, 292
Ensor, George, 54, 64, 110 n., 111
Essay on Population, Essay I, 207, 216, 224, 230, Essay X
  checks, 1, 20, 25 ff., 260
    classification of, 25–26
    misery, 1, 4, 5, 25, 26, 32, 36, 37, 54, 80, 128, 199, 207, 264, 313, 314
    oscillatory motion of, 260
    positive checks, 25–33, 78, 265
      benevolent nature of denied, 28, 31
      famine, 32, 33
      infanticide, 26, 33, 34
      pestilence, 32, 33
      physical suffering a process of mental and moral development, 80
    preventive checks:
      birth-control, 43, 93–94, 265
      declining birth-rate a development of, 275
      late marriage, 40

Essay on Population
checks
preventive checks (*continued*)
moral restraint, 1, 25, 26, 29, 30, 35–38, 53, 93, 207, 264–65, 275
physical restraint denounced, 43
prudential restraint, 29, 36, 42–43, 60, 275–76
vice, 1, 25, 26, 37, 128, 207, 264, 313, 314
war, 32
compared with earlier writings on subject, 249–50
doubling of population in twenty-five years, 1, 7
editions compared, 2, 78, 93, 262 ff., 267
first edition:
argument of, 257–62
origin of, 256
social background of, 77–78, 250–54
sources of, 257
individuation versus genesis, 66
institutions responsible for evils of population, 31, 32
law of diminishing returns, 15, 16
migration, 31, 32, 303
natural selection, 71–72, 261
passion between the sexes: 9–10, 258–59
poverty, 3, 29, 30, 32, 265–67, 320
ratios, 1, 6–14, 264
arithmetical, 12, 13, 22, 260, 264
geometrical, 10, 13, 72, 259, 260, 264
second edition:
argument, 263–67
method, 250, 263
sources of, 262
social equality, 29
standard of living, 20–21
tendency of population to outstrip subsistence, 18–20, 260
theodicy, 261

Essay on Population, criticisms of, Essay I
animated by political feeling, 2
character of, 78 ff., 82, 271
checks, 25–76
applicable in state of equality of property, 4
confused with decreased psychological power of increase, 10
misery, 30, 47, 59, 110
positive checks, 26–28, 31, 35, 36
preventive checks, 34–53, 68, 83, 84
early marriages advocated, 38
as treated in second edition, 35–36
existence denied, 38
infanticide classified as preventive check, 35
as interpreted by neo-Malthusians, 45, 207 ff., 211, 312–13
irreligious, 40
moral restraint, 34–43, 45, 94, 110, 111, 208
motives to practice of, 53 ff., 79
ought not to be imposed upon the poor, 70
physical restraint, 45–53, 79, 83
prudential restraint, 40 ff.; 65, 67, 68, 76, 314
center of emphasis in attempts to indicate the remedy for overpopulation, 40
efficacy of, in different social classes, 41–43, 53–63
motives to practice of, 58–59
standard of living, 55
unnecessary, 70, 117

Essay on Population, criticisms of
checks (*continued*)
vice, 30, 47, 72, 110
war, 72
differential increase, 63–76, 83–84
becomes important part of the theory of population in sixties, 75
explained by physiological "law," 65 ff.
idlers, 73
influence of intellectual life, 68–69, 73
inverse ratio of individual development and fertility, 66, 67
poverty favorable to propagation, 63, 64, 65, 70, 74
as a selective process, 73, 74
wealth antagonistic to propagation, 63, 64, 65, 66, 83
differential restraint, 60–63
law of diminishing returns, 15, 16, 22, 31
passion between the sexes, 257 ff.
distinguished from fecundity, 9
not a constant factor, 10
ratios, 6–21
arithmetical, 12–17, 20, 22, 31
geometrical, 6, 9–15
relative nature of population theory, 77, 82–84
tendency of population to outstrip subsistence, 17–25
beneficial effects of population pressure, 80–82
Eugenic comparisons
within the nation, 280 ff.
between nations, 280–81
Eugenic excellence, 239–40
Eugenic ideal, 240, 242
free from invidiousness, 195
of normality, 241
paradoxical, 248
positive eugenics, 282 ff.
possibility of harmonizing with economic motives, 244
proposes to reconcile individuation and genesis, 242
too abstract for popular appeal, 234
Eugenic policy, must command public support, 247
Eugenic selection:
concerned with conditions of efficiency, 195
importance of, 192
see also Birth-rate, differential; *Essay on Population*, criticism of; differential increase; differential restraint
Eugenic standards:
compared with standards of economic success, Essay IX, 236 ff.
judged by economic standards, 239, 247
Eugenics, Essays IV, V, IX
aim of, 149, 172, 180, 236–37
biological aspects, 153, 281
and birth-control, 296, 322
created by Galton, 152
death factor as an element in a reasoned population program, 34
defined, 149, 152–53
and demography, Essay V, 198
development of, Essay IV
dysgenic tendencies of civilized societies, 281
dysgenic traits, 285
from the economic point of view, 282
economist's rôle in development of, 197
first international congress on, 170
mathematical method, 145–46, 148, 154–55, 161, 181, 203; *see also* Biometric method
method, 134, 143
movement:
in America, 163
derived from Malthus, 269
in England, 132 ff., 230
motivation of, 281–82
program of activity, 150

Eugenics (*continued*)
negative 148, 171–176, 182, 193, 196, 241–43, 282, 284–85
origin of term, 144–45
positive, 171–76, 179
positive and negative, defined and compared, 284
positive ideal, 282, 285, 286–89
positive program, 148, 173
and poverty, 287
practical program confined to manifestly good or notoriously bad, 173
and "race-suicide," 304–5
rationalization of a hope, 248
a religious dogma, 151
religious sanction for, 145, 152
restrictive, *see* Eugenics, negative
town life subversive to quality of population, 188
Eugenics Education Society, 169, 170
Eugenics Laboratory, 160
Lecture Series, 168
publications of, 157–59
Eugenics Record Office, 168, 182, 203
description of work, 166–67
method, 166
publications, 167–68
Eugenics Review, 169
Evolution, 192
of economic institutions, 273–74
human, 241, 287, 290
see Darwin; Darwinian theory of evolution

Family, individuation of members of, 87, 393
Fay, Edward A., 163
Fecundity, 9; *see also Essay on Population*, passion between the sexes
Feminism, influence on birth-rate, 179
"Ferdy, Hans," *see* Meyerhof
Fertility:
a constant factor, 9
exceptional, 202
reaction of extensive consumption on, 396
Fetter, Frank, 15 n.
Fildes, Mrs., 48, 95–105, 116, 217
Fisher, Irving, 345 n.
Fox, W. J., 122
Fraas, Eberhard, 189
France, birth-rate and death-rate, 292
Franklin, Benjamin, 15
Free speech, 211, 215, 220, 225, 226, 253, 309
Free thought, 309; *see also* Secularists
French Revolution, 92, 230, 250, 253
Freud, Sigmund, 314

Galton, Sir Francis, 75, 76, 84, 132, 138, 148, 153, 154, 164, 168, 169, 171, 187, 198, 239, 240, 270, 281
contribution to eugenics, 130–53
death, 152
endowment of a professorship of eugenics, 156
founded fellowship for study of eugenics, 155
gift of fortune to eugenic investigation, 153
see also Eugenics
Galton Laboratory for National Eugenics, 156, 160, 203; *see also* Eugenics Laboratory
Germany, migration policy, 301–3
Glover, Professor, 361
Godwin, 3, 4, 11, 17, 28, 33, 37, 47, 60, 77, 82, 95 (quotation), 111, 112, 254, 256, 257, 259, 262, 263; *see also* Perfectibility; Perfectionists
Goodwin (Rev. Dr.), 113
Gourlay, Robert, 115
"G.R.," 219
Grahame, James, 28, 30, 44, 64, 69, 70, 72, 73, 82, 267 n.

Gray, Simon, 13, 22, 23, 24, 38, 40, 56, 63, 67
Great Britain, migration policy, 301–3
Greeks, first to give a formal abstract statement to facts of population, 272
Greg, William Rathbone, 75, 76, 84, 136, 138, 144, 194
Grote, George, 124, 208
Guyau, Marie Jean, 187

Haeckel, E. H. P. A., 189
Hagerty, J. E., 87
Haileybury College, 256
Haldane, J. B. S., 247
Hall, Dr. Charles, 4, 28, 30, 33, 38, 39, 44
Hansen, Georg, 188
Hayward, Abraham, 125, 126
Hazlitt, William, 14, 28, 35, 41
Heredity, 74, 84, 229
  differences in human ability, 128
  versus environment, 141–43, 159, 283
  hereditary traits, 89
  theory of, 134
  see also Inheritance
Heron, David, 156
Hickson, W. E., 25, 52, 64, 67, 74, 123 n.
Higher wants, 275, 396–97, 399; *see also* Standard of living
Hodgskin, Thomas, 102 n.
Holyoake, Austin, 123 n.
Holyoake, G. J., 97, 100, 126
Hume, David, 257
Hungary, birth-rate and death-rate, 292
Hunt, (Rev.) Philip, 113
Huxley, T. H., 192

Immigration, 271
  effect of war upon policy of United States, 234–35
  threatens inequality of men, 85
  transfers to United States racial consequences of war, 229–30
Inbreeding, 145, 186
Individuation, 87, 88, 90
  versus genesis, 258, 389
  see also Essay on Population
Industrial revolution, 92, 251
Infant mortality, 199–201
Infanticide, 26, 33, 34, 35, 291; *see also Essay on Population; Essay on Population*, criticism of
Ingram, Robert Acklom, 41, 44, 57, 67, 73
Inheritance, 154
  of acquired characters, 283
  of alcoholism, 160, 177, 204
  of criminal traits, 204
  all human qualities inherited, 158
  alternative, 161
  of generalized capacity, 141
  of genius, 239
  of mental traits, 133, 153, 155, 157, 159, 167, 283
  of moral traits, 155, 159, 283
  of pauperism, 204
  of physical traits, 153, 155, 157, 159, 282
  of "recessive" defects, 204
  of specific traits, 184
  of superior ability, 133–34, 139–43, 172, 245
  traits as variations from normal type, 161
  see also Artificial selection; Biometric method; Darwinian theory of evolution; Eugenics; *Essay on Population*, criticism of; differential increase; Heredity; Mendelian theory

Inquisition, effect on quality of population, 135
Institutions, 273
  effect on population growth, 9
  opposed to reproduction, 273–75
  see also Essay on Population
Instinct, 91
  parental, 174, 299
  of reproduction, 9, 297–99
International Congress on Hygiene and Demography, 198
International Genetic Conference, 170
Italy, migration policies, 303

Jacoby, Paul, 187
Japan, migration policy, 301–3
Jarrold, T., 44, 67, 68
Jewish attitude toward birth-control, 323 n.
Johnson, Samuel, 61
Jordan, David Starr, 164, 165

Kellicott, William E., 180, 182
Knowlton, Charles, 53, 91, 123, 210, 211, 218

Laing, Samuel, Jr., 24, 25 n., 55, 59
Laing, Samuel, Sr., 54
Lambeth Conference of Bishops, resolutions on birth-control, 323 n.
Lankester, E. Ray, 138 n.
Lapouge, 188
Laughlin, H. H., 166
Lister, Joseph, 291
Lloyd, W. F., 44, 55, 57, 109, 122
Logarithmic diagrams:
  advantageous in showing same rate of relative increase over a period of time, 376–77
  advantages combined with simplicity of natural vertical scales, 379–83
  advantages summarized, 386
  of annual depreciation, 361
  applied to data of net deposits and reserves, 346–48; 367–70
  applied to phenomenon increasing by equal relative oscillations, 352–54
  both scales divided logarithmically, 383
  characteristics of, contrasted with natural scale, 345–66
  of a compound-interest table, 358–60
  devices for the interpretation of, 367 ff.
  general properties of, 352 ff.
  geometric horizontal scale, 382
  of growth of the population of the United States, 357
  horizontal scale used for logarithmic subdivision, 379
  index-numbers, 377
  of inverse percentage scale, 371–73
  of life-table for native white males, 361–66
Logarithmic scale
  advantages of, in statistical diagrams, Essay XIV, 344 ff.
  mathematical principle of, 349
  principles of, 366
  procedure in constructing, 351
  superiority to the natural scale for comparing very small and very large quantities, 374–75
  test for Pareto's Law, 385
Longson, W., 115
Lowe, Joseph, 11, 24, 61, 85
Luther, Martin, 22, 23
Lyell, Sir Charles, 135

Macaulay, J. B., 12, 62
McCulloch, J. R., 19, 22, 42, 43, 52, 59, 81, 127, 163, 167
McKim, A. Duncan, 34, 175

McPhail, James, 49, 98, 100, 116
Malthus, Daniel, 254
Malthus, Thomas Robert, 3, 13, 16, 44, 73, 79, 97, 112, 116, 123, 127, 254–56, 261, 262, 268, 312; *see also Essay on Population; Essay on Population*, criticism of
Malthusian League, 212, 223
Manning, William, 4, 44, 84
"Marcus," 34, 73, 74
Marriage:
consanguineous, 204
deferred, advocated, 38, 207, 216, 266
deferred, a defecundating cause, 40, 265
discouraged by fashion, 56
early, advocated, 38, 209
early, consistent with small families, 216
effect of birth-control upon, 299–300
improvident, 208
intermarriages, 186
neo-Malthusian attitude toward, 314
relation to eugenics, 150, 151–52, 187, 284
relation to standard of living, 389, 393
restrictive laws, 175
selection, 152, 183, 191, 272, 274
Martineau, Harriet, 43, 64, 84, 108 n., 122, 256 n.
Marx, Karl, 270
Maternity benefits, 235
Mendel, Gregor Johann, 146, 187
Mendelian method, and biometric methods compared, 161–62
Mendelian theory, 161, 162, 163, 166, 178, 181, 183, 184, 185–87, 284
Mensinga, 326 n.
Menzies (Rev.), 101
Mexico, birth-rate and death-rate, 292
Meyerhof ("Hans Ferdy"), 44, 94
Migration:
as an overflowing process, 300–302
qualitative differences in the immigrant population, 304–5
in relation to colonial policies, 301
theory that it does not change numbers, 303
see also Immigration, *Essay on Population*
Mill, James, 22, 42, 46, 94, 102, 110, 111, 125, 127, 208, 217, 310, 312
Mill, John Stuart, 7, 16, 22, 43, 45, 46 n, 61, 62, 81, 111 n, 125, 126, 208, 217
Moody, Loring, 164
Moral restraint, *see Essay on Population; Essay on Population*, criticism of
Moreton, A. H. 61, 67, 70
Mortality, *see* Death
Muret, M., 66
Murray, John, 268

National Committee on Maternal Health, Inc., 326 n.
Neo-Malthusianism, 44, 53, 93, 101, 208–14, 227
attitude toward nature, 310
champions of, characterized, 213
and Darwinian theory of evolution, 310
and declining birth-rate, 91, 275
economic motive, fundamental, 54
history of movement in England, 45 ff.; Essay III, 91 ff., Essay VI, 206 ff., Essay VII, 215 ff.
in Holland, 212
ideal of, 129
lesser evil, argument for birth-control, 313–14
morality of, 129, 312
and political democracy, 311
preventive checks, 100, 111
relation to Malthus, 269, 312–13

Neo-Malthusianism (*continued*)
source of data regarding, 92
theory of, Essay III, 91 ff.; 310 ff.
theory of intelligent responsibility, 311–12, 315
theory of poverty, 312, 317–18
utilitarian philosophy of, 310–14
see also Birth-control; Birth-rate, decline of; Contraception; *Essay on Population; Essay on Population*, criticism of
New York Committee on Maternal Health, 326 n.
New Zealand, birth-rate and death-rate, 292

O'Brien, Bronterre, 113
O'Connor, Feargus, 113
Odin, Alfred, 164
Otter, William, 255 n.
Overpopulation, 20, 30, 40, 50, 68, 118–19 208, 209, 211, 302
Owen, Robert, 49, 98, 99, 100, 101, 102, 108, 127, 217
Owen, Robert Dale, 49, 51, 101, 121, 122 n., 209, 210, 218, 222

Parenthood, 87, 288
affected with a public interest, 235
economic incentive, 244 ff.
ideals favoring increase, 278–79
ideals opposed to, 276–78
qualification for, 89, 179, 243
specialization in, 244 ff.
Pareto, V., 385
Pasteur, Louis, 291
Paul, C. Kegan, 37
Pauperism, hereditary factor in, 204
Payne, J. O., 256 n.
Pearson, Karl, 146, 147, 154, 155, 156, 159 n., 162, 178; *see also* Biometric method; Eugenics; Eugenics Laboratory
Perfectibility, doctrine of, as starting-point for Malthus' *Essay*, 71–72, 282
Perfectionists, 250; *see also* Godwin, William
Physical restraint, *see* Birth-control; *Essay on Population; Essay on Population*, criticism of
Pius XI, pope, 323 n.
Place, Francis, 41, 44, 47, 51, 79, 92, 95, 96 n., 99–110, 112, 113, 116, 118, 119, 122, 124, 125, 127, 128, 129, 208, 209, 216, 269–70, 310
Plato, 131, 388
Ploetz, Alfred, 189
Politisch-Anthropologische Revue, 189
Poor law, 79, 251
allowance system, 251–52
Amendment, of 1834, 34, 123
influence of Malthus' teaching on, 268
law of settlement, 251–52
outdoor relief, 252
Pitt's Poor Bill, 253
Speenhamland system, 252
workhouse test, 252
Population:
balance of power, 230
defined, 270
effect of war upon, Essay VIII
importance of numbers in time of war, 230-31
increase of, in England, 251
maintenance of, 89
narrow conception of subject, 269
numbers:
in relation to cultural survival, 275
in relation to quality, 289
policies:
always out-of-date, 286
in United States, 234
problems:
attempts at formulation by primitive people, 272
broad scope of modern conception of problems, 270
relative nature of, 271–72

Population (*continued*)
theory of,
changes less than opinions of those dealing with problems of population, 86
related to various sciences, 82
relative character, 84 ff.
see also Birth; Birth-control; Death; Death-rate; Demography; *Essay on Population;* Eugenics; Immigration; Migration; neo-Malthusianism; Overpopulation

Positive checks to population growth, *see Essay on Population; Essay on Population*, criticism of

Poverty, 3, 119, 132, 314, 399
birth-control and, 217, 313, 317–18
compensation for self-denial of prudential restraint imposed on upper classes, 69 ff.
due to overpopulation, 211, 216
eugenics as a cure for, 287–88
neo-Malthusian interpretation of, 312, 313
poor responsible for, 265
raising the standard of living, 398–99
relative nature of, 318
see also Birth-control; *Essay on Population; Essay on Population*, criticism of; Poor Law; Standard of living

Pratt, (Rev.) John, 113

Preventive checks to population growth, *see Essay on Population; Essay on Population*, criticism of

Price, Dr., 257

Primogeniture, law of, 62, 278

Prostitution, 119, 211, 313, 314

Prudential restraint, *see Essay on Population; Essay on Population*, criticism of

Public health movement, 291

Purves, George, 23; *see also* Gray, Simon

Pusey, Dr. William A., 326 n.

Quetelet, L. A. J., 135

Race improvement, 144, 171, 189, 198; *see also* Artificial selection

Race suicide, 128, 176, 275, 304

Radicals, 309, 310; *see also* "Westminster Rump"

Raikes, Henry, 41, 42 n., 68

Rassenbiologie, 187.

Ratios, geometrical and arithmetical in Malthusian argument, *see Essay on Population; Essay on Population*, criticism of

Ravenstone, Percy, 4, 23, 27, 38, 40, 44, 63, 83

Read, Samuel, 56, 67

Religion, 213, 275

Rentoul, R. R., 176

Reproduction:
enlarged meaning of, 275
ideals influencing, 179
see also Parenthood

Ribot Théodule, 187

Ricardo, David, 55, 112, 126, 127

Rickards, George, 14, 19, 25, 27, 52, 62, 64, 123 n.

Robertson, J. M., 124 n.

Roman Catholic church: attitude toward birth-control, 323 n.

Rosser, W. H., 111 n.

Roumania, birth-rate and death-rate, 292

Rousseau, J. J., 254

Rowntree, B. Seebohm, 392, 393

Ruskin, John, 176

Russia, birth-rate and death-rate, 292

Sadler, Michael, 11, 12, 14 n., 36, 40, 52, 57, 65, 67, 70, 79, 395

Saleeby, Caleb W., 176, 178
Sanger, Margaret, 215, 226
Sanger, William, 215
Schallmayer, Wilhelm, 190
Schuster, Edgar, 156
Scrope, G. Poullett, 24
Secularists, 211, 219, 220, 223
Segregation, 186
Select Committee on Labourers' Wages, 113
Seligman, E. R. A., 92
Senior, William Nassau, 18, 19, 24, 42, 44, 58, 59, 390
Seybert, Dr., 12
Sismondi, S. de, 45, 101
Smith, Adam, 257
Smith, William, 116
Social inequality, source of evils of population, 3, 29
Social reform, 50, 130, 135, 154, 182, 195
Socialism, proposals derived from Malthus, 270
Socialist reforms, 61
Socialist theory of population, 3, 25
Society for the Suppression of Vice, 222
Specialization:
  economic, 274
  influence on eugenic ideal, 248
  sacrifice of normal individual life, 89
  threatens reproduction, 90
  see also Division of labor; Parenthood
Specific productivity, 242
Speenhamland system, 252
Spencer, Herbert, 10, 66–69, 84, 242, 270, 389, 396
Standard of living: XV, 387 ff.
  acceleration of standards, 398
  amelioration by redistribution of purchasing power, 398
  ammain-measure, 393
  and birth-control, 319
  budget studies, 387, 392, 393
  check on population growth, 54–59, 265
  comforts, 390
  conformity, 58, 389–91
  criteria of normality, 391
  decencies, 390
  definitions of, 388–90
  and democracy, 391
  and differential birth-rate, 64, 233, 319, 396
  dynamic element in, 391
  effects of war debts upon, 232
  equilibrating factor between the pressure of numbers and the desire for things to consume, 270
  expansion factor, 391
  and exploitation of resources, 398
  higher for children than for parents, 278
  higher wants, 275, 396–97, 399
  hope of improving in democratic society, 63
  influence of town life, 58
  legislation and normative standards, 388
  luxuries, 390
  maximum standards, 393 94
  and military preparedness, 231
  minimum standards, 393
  necessaries, 390
  and normal family, 390–91
  in peace times, 232
  progress of individual standards, 399
  prudence increases in proportion to the increasing demands of the scale of living, 62
  and reproduction, 395
  Senior's classification of wants, 58
  signs of stress in the scheme of consumption, 392
  "spiritual" wants, 397
  stress-signs in budget-records, 392
  surplus, 394–95

Standard of Living (*continued*)
and technique of exploitation, 399
in war time, 231, 232
waste, 395
see also Birth-rate; *Essay on Population*, criticism of; Prudential restraint; Neo-Malthusianism; Poverty
Statistical method, relation to economic theory, 341; *see also* Logarithmic diagrams
Sterilization, 176, 186
Stuart, H. W., 388
Success, standard of:
inimical to normal living, 90
in relation to parenthood, 88–89, 288
Sumner, John Bird, 40, 42, 44, 80, 82
Survival of the fittest, 137, 194

Tait, Lawson, 138 n., 195 n.
Taylor, J. E., 48, 95 ff., 105 n., 116
Tendency of population to outstrip subsistence, *see Essay on Population; Essay on Population*, criticism of
Thompson, William, 42, 51, 57, 60, 64, 95
Thornton, 61
Tönnies, Ferdinand, 190
Truelove, Edward, 91, 222
Twiss, Travers, 26, 27, 44, 57, 81

Unitarians, resolutions on birth-control, 323 n.
Universalists, resolutions on birth-control, 323 n.
Utilitarianism, 44, 129
as applied to marriage relation, 94, 128
as applied to neo-Malthusianism, 129, 310–14
relation of Malthus' doctrine to, 208

Vasectomy, 176
Vice, 95, 128, 298; *see also Essay on Population; Essay on Population*, criticism of
Viriculture, 139
Vital statistics, 199, 200
Variations, selective importance of, 139, 161, 180; *see also* Darwinian theory of evolution; Eugenics
Volta Bureau, 163–64
Voltaire, 254

Wages fund, 55, 81, 127
Walker, General Francis, 303
Wallace, Alfred Russell, 138
Wallas, Graham, 108, 110 n., 112 n., 124
War, effect on population, Essay VIII, 291; *see also Essay on Population*
Ward, Lester F., 164
Warner, Amos, 163
Watts, Charles, 219
Weismann, August, 187
Weldon, Professor, 155
Welfare, 204, 239
human 197, 241
national, 131, 146
relative nature of, 286
social, 234
"Westminster Rump," 105, 124
Weyland, John, 4, 22, 39, 43, 57, 60, 63, 70, 80, 82, 84, 267 n.
Whately, Archbishop, 18
Whetham, C. D., 178, 180
Whetham, W. C., 178, 180, 182
Windeyer, Mr. Justice, 224, 225
Woltmann, Ludwig, 190
Women:
and birth-control, 233, 317, 320–22
effect of higher education upon marriage, 88
equal in responsibilities, 87
Woods, 164
Wooler, J. T., 5, 48, 97, 98 n., 107, 123, 217

[PRINTED IN USA]