HERBERT SPENCER

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THE MAN AND HIS WORK

BY

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Author of

'Thomas Carlyle' and 'Adam Smith'

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PREFACE

A PHILOSOPHIC thinker of the first rank is always known by the amount of literature which his writings call forth. Descartes, Locke, Spinoza, Hume, Kant, Hegel—these in their respective spheres were epoch-makers. From the philosophic germs which they scattered have sprung whole libraries of controversial literature. In like manner Mr. Herbert Spencer has paid the penalty of his great philosophic fame. As an epoch-maker, he, too, has had to pass through the fire of hostile criticism. For a great number of years his philosophy has been the battle-ground of controversialists who, differing in many ways among themselves, have united in their attempts to discredit a system of thought which threatened to destroy long-cherished opinions and stereotyped beliefs. One result of this has been that to the general public the Synthetic Philosophy, embedded as it has been in the works of critics, has necessarily appeared in

a fragmentary form. My object in writing this book has been to present to the general reader Spencerism in lucid, coherent shape. Nothing can take the place of Mr. Spencer's own writings, but mastery of these demands an amount of leisure and philosophic enthusiasm which are by no means widespread.

Until after the first negotiations had been entered upon for the publication of this work Mr. Spencer was unaware that it was in contemplation, but since he has been informed of my design I have had his approval. I must add that Mr. Spencer has not seen a sentence of this work before publication, either in manuscript or in proof. He has been anxious that I should not be influenced by any criticisms he might pass. He has taken a kindly interest in the undertaking, and responded to my request for certain materials. The book is by no means a slavish reproduction of Mr. Spencer's writings. Taking my stand upon the fundamental ideas of the Synthetic Philosophy, I have used them in my own way to interpret and illustrate the great evolutionary process. While, therefore, Mr. Spencer has been in full sympathy with the aim of the book, he does not stand committed to the detailed treatment of the subject. The work has indeed been a labour

of love. Should it induce the reader to study Spencerism as expounded by the master himself, my reward will be ample.

I should be lacking in gratitude did I not express my obligations to the elaborate work of Mr. John Fiske, entitled *Outlines of Cosmic Philosophy*. No student of Spencer can afford to neglect Mr. Fiske's book, which it would be difficult to rival in point of lucidity and intellectual ability. I am also indebted to Professor Hudson of California for his admirable book, *Introduction to the Philosophy of Herbert Spencer*. In the philosophic and economic parts of the book, I have drawn upon a few paragraphs in my *Thomas Carlyle* and *Adam Smith*. Knowledge of a philosopher's system of thought is greatly helped by knowledge of the philosopher himself, and in this respect I have been exceedingly fortunate. The recollection of my personal relations with Mr. Spencer will ever be to me a priceless possession.

HECTOR MACPHERSON.

EDINBURGH, *April* 1900.

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CHAPTER I

EARLY LIFE

CARLYLE has remarked that the history of the world is in the main the history of its great men. There is profound truth in the saying, though in his antipathy to a purely scientific treatment of civilisation Carlyle used his great man theory in fantastic and misleading fashion. The intellectual contribution which each century makes to the progress of the world takes its hue from the dominating influence of its leading thinkers. True greatness is epoch-making. If we wish to discover the place of a thinker in the great evolutionary chain, we must apply the epoch-making test. The mind of the great man is like an overflowing reservoir which makes for itself new channels and fertilises hitherto unknown tracts of thought. Or to use a biological simile, the sociological effects produced by the great man resemble the changes caused in the fauna and flora of a country by the introduction of a new species. Think of the impoverishment which history would sustain by the obliteration of the names, say,

of Paul, Augustine, Calvin. Those thinkers not only unlocked new forces in their day and generation, but even yet from their tombs they hold sway over the minds of countless thousands. Their speculations formed the creeds of centuries, and their passionate and yearning musings upon human life and destiny find echo in the souls of some of the noblest of earth's sons. When the long night of authority and credulity was drawing to a close, when the sun of inquiry was dawning above the horizon, great thinkers arose who, from the mountain-tops of science, foresaw the meridian glory of the Age of Reason.

After the splendid work of Mr. John Morley, it is superfluous to dwell upon the achievements in the cause of enlightenment of the intellectual heroes of the Revolution epoch. The great constructive systems of the past had not only fallen before the assault of Reason, but had become cumberers of the ground. The decaying creeds of the past not only impeded the progress of thought, but were a barrier to social amelioration. Paths had to be cut through the jungle, and, in the name of humanity, abuses hoary with the sanctity of religion had to be attacked. For the pioneering work accomplished, humanity is everlastingly debtor to the bold thinkers of the Revolution epoch. Not content with the work of destruction, they set themselves to the task of construction. Humanity

cannot live on negation. Through the writings of Voltaire, Diderot, and the Encyclopædists may be detected attempts to formulate a conception of man and his destiny which would take the place of the theologic conception which in pre-scientific times had done duty for ages as man's attempt to solve the problem of Existence; indeed the idea of the *Encyclopædia* rose out of the feeling that destruction needed to be supplanted by painstaking attempts to attain to a comprehensive, coherent theory of life, in which humanity would find at once intellectual satisfaction and emotional harmony. Out of dissatisfaction with mere negation grew not only the *Encyclopædia*, but the imposing systems of Holbach and Helvetius. The time was not ripe for imposing philosophic systems, for the simple reason that knowledge of the universe and man had not gone far enough to be organised on a scientific basis. No system can endure which rests on premature generalisations and unverified speculations; unconsciously the Rationalists of the Revolution imported into their creed-making the unreliable methods of the Theologians. Still their failure on the constructive side should not lessen our admiration for the splendid work they did as liberators of humanity. They loosened the hold of decaying creeds; they cleared the dense forest of thought; they pointed the way to the promised land of mental freedom and social progress.

After the French Revolution had spent its force, progressive thinkers became alive to the purely destructive nature of that movement on the intellectual side. Among them was Comte—a thinker whose great merits have not had adequate recognition. Comte had the true sign of greatness —intellectual vision. He was not content, like Hume and analytic thinkers generally, to resign himself to the gloom of the forest, or to smother the ever-recurring thoughts of man and his destiny in the petty butterfly attractions of an Epicurean philosophy. His great ambition was to provide a path and an ideal by which humanity would march boldly on to the expansive uplands and heights of truth. Comte's methods were distasteful to his English readers. His colossal egoism, his preference for mediæval modes of thought, and his disparagement of individual liberty and reason, set on edge the critical teeth of many who sympathised with his high-souled endeavours. Destructive critics like Huxley used Comte in order to make sport for the Philistines. The fatal blow to Comte's influence came from the new idea of Evolution, which wrecked his p ilosophic system as it did the systems of Buckle and Mill. All three thinkers found themselves stranded because of their inability to incorporate the n w views which were to revolutionise philosophical as well as scientific thought. Still, in spite of the ridicule of Huxley and the contemptuous

treatment accorded to him in France and England, Comte deserves to be held in remembrance as a thinker of fine calibre, prophetic vision, fertile thought, and massiveness of mind.

The dominating idea of the last half of the nineteenth century is Evolution—an idea so far-reaching in its influence, so mesmeric in its power, that at its touch all other ideas crystallise round it and, as if by magic, yield to its potent sway. The thinker with whom history will imperishably associate the idea of Evolution is Herbert Spencer. Perhaps in no sphere has the influence of the Evolution theory been more indirectly potent than in biography. So long as man was treated as an extra-mundane creation there was a natural tendency to concentrate attention upon the dramatic and incalculable side of his nature. Emphasis was laid upon the inner psychical factors to the exclusion of those physical conditions which play such a prominent part in human development. Great men, in the language of Carlyle, were messengers of the Eternal —messengers who so dominated their environment as to baffle all attempts at explanation and classification. Ignorance of the law of evolution naturally led to an unintelligent hero-worship which blinded the intellect to the subtle relations existing between man and his surroundings. Herbert Spencer changed all that. His *Principles of Biology* foreshadowed a conception of biography in which the

great man would no longer be viewed as an incomprehensible incarnation of supernatural energy, but as the product of certain interpretable forces. Between the average man and the great man the difference is mainly this—the one remains passive, while the other, as has been already said, reacts upon his environment, thereby unlocking new forces and giving a fresh impetus to progress. In coming to the study of Herbert Spencer, we cannot do better than use for purposes of biographic interpretation his own far-reaching principles. Before seeking to understand Spencer the philosopher, it is necessary to understand Spencer the man. A critical estimate can only lay claim to completeness when a picture is given of the philosopher as influenced by his age as well as dominating his age. If the title of great is due to those rare souls who have scaled the heights of human thought, and from the Pisgah summit have pointed the way to intellectual horizons undiscoverable by ordinary mortals, upon the brow of Herbert Spencer must be placed the never-fading wreath of immortality.

Herbert Spencer was born at Derby on 27th April 1820. Spencer, like Mill, owed much to his father, but the educational methods pursued were very different indeed. James Mill had an almost fanatical belief in education. One of the tenets of the eighteenth-century philosophy was the modifiability of human nature, and the value of systematic

training. James Mill put his son into training at the earliest possible moment; and for years subjected him to a severe course of mental discipline. The elder Spencer, in his own way as intellectually independent as James Mill, took a more rational view of education. He did not deem it the highest wisdom to force children into an artificial groove; he preferred to trust to the spontaneity of nature. In his view cramming of the memory with bits of detached knowledge was of little value compared with thorough mental individuality. Being a teacher by profession, the elder Spencer was in a position to give full sway to his ideas. To this, and not, as has been supposed, to delicate health, was it that young Spencer was somewhat backward in his early education. He was seven years of age before he could read. In due course the boy was sent to a training day-school, but his progress was not particularly satisfactory. He did not take kindly to the routine of school life. He is described as having been restless, inattentive, and by no means pliable. In all lessons in which success depended upon mechanical methods, such as learning by rote, young Spencer did not show to advantage. Knowledge of the fragmentary kind he did not readily assimilate; it was only when his observing and reasoning faculties were called into play that intellectual progress was discernible. Nature appealed to him more forcibly than books. Science

in his youthful days exercised over him a special charm. One of his favourite occupations is said to have been 'the catching and preserving of insects and the rearing of moths and butterflies from egg through larva and chrysalis to their most developed forms.'

To his domestic surroundings, more than to his formal school training, the boy was indebted for his mental development. His father and uncles were men of pronounced individualities, bold thinkers on religion, politics, and social questions generally. In the family circle young Spencer heard all the topics of the day discussed with freedom and boldness. Such an atmosphere was fatal to that hereditary reliance upon authority characteristic of average middle-class homes. Moreover, the boy was early taught to think for himself in matters religious by the example of dissent which he witnessed weekly in his own home. His parents were originally Methodists, but his father had a preference for the Quakers, while his mother remained true to the Wesleyan persuasion. On Sunday mornings young Spencer attended the Quakers' meeting with his father, and in the evening he accompanied his mother to the Methodist chapel. Thus early the future philosopher had to reckon with the personal equation, the domestic bias in matters theological. There is nothing in Mr. Spencer's writings to show that religion had ever

taken vital hold of him, as it did some of his noted contemporaries. Mill has left on record how he grew up outside of religious influences. His father deliberately kept him from contact with religion on its emotional and ceremonial side. In that case Mill's detachment of mind on religious questions was intelligible; but, in regard to Spencer, the curious thing was that, while moving in the midst of religious influences, he seems to have remained totally unaffected by them. One would have expected to find him, like George Eliot, under the sway of those spiritual ideals and impulses which were inseparably associated with middle-class Evangelicalism in the first half of the century. In conversation I once asked Mr. Spencer if, like George Eliot, he had first accepted the orthodox creed, then doubted, and finally rejected it. His reply was that to him it never appealed. It was not a case of acceptance and rejection: his mind lay outside of it from the first.

In many ways both Mill and Spencer would have found their philosophic influence broadened and deepened had they, in their early days, shared in the spiritual experiences of their contemporaries. Those thinkers who, under the domination of youthful enthusiasm, have endeavoured to realise supernatural ideals and, under emotional fervour, to strike the note of ascetic sanctity, receive an almost intuitive insight into the deeper religious problems

of the age—an insight denied those who come to the study of religious psychology with the footrule of the logician and the weighing-scales of the statistician. Many students who have long since broken away from the bonds of orthodoxy, and whose minds now soar into the ampler air of speculative freedom, will be ready to admit that in dealing with religion the minds of both Mill and Spencer work under serious limitations, due to their lack of spiritual receptivity in early days. To this lack of receptivity must be traced the error into which Mr. Spencer fell in his *First Principles* in supposing that science and religion would find a basis of agreement in recognition of the Unknowable. The terms proposed by science resemble those of the husband who suggested to the wife, as a basis of future harmony, that he should take the inside of the house and she the outside.

When young Spencer reached his thirteenth year, the question of his future came up for serious consideration. It was deemed wise to trust him to the educational care of his uncle, the Rev. Thomas Spencer, perpetual curate at Hinton, near Bath. The Rev. Mr. Spencer was a Radical in politics, a temperance advocate, an anti-corn law agitator, and an enthusiastic advocate of all measures relating to the welfare of the people—a man, in brief, whose life was shortened by unsparing devotion to ideals which are now recognised as realisable, but which

then were treated as the products of a Quixotic mind. The reverend gentleman, himself a distinguished graduate of Cambridge, naturally set himself to qualify his nephew for a university career. His nephew's mind, however, was not cast in the university mould. In his interesting biographic sketch of Herbert Spencer, Professor Hudson sums up very concisely the progress made during this period: 'The course of study now pursued was somewhat more regular and definite than had been the case at home; and the discipline was of a more rigorous character. But save for this the uncle's method and system did not materially differ from those to which young Spencer had been accustomed while under his father's roof. Once again his successes and his failures in the various studies which he now took up were alike significant. In the classic languages to which a portion of his time was daily given very little progress was made. The boy showed neither taste nor aptitude in this direction; rules and vocabularies proved perpetual stumbling-blocks to him; and what little was with difficulty committed to memory was almost as soon forgotten. But while for studies of this class there was shown an inaptitude almost astounding, a counterbalancing aptitude was exhibited for studies demanding a different kind of ability—constructive and co-ordinating power rather than a memory for unconnected details. In mathe-

matics and mechanics such rapid advancement was made that he soon placed himself in these departments abreast of fellow-students much older than himself. What was noticeable, too, was his early habit of laying hold of essential principles, and his ever-growing tendency towards independent analysis and exploration.'

Close study of his nephew's mind led the Rev. Mr. Spencer to abandon the idea of a university career. It has been represented that his uncle was emphatic upon the necessity of a university training, and only reluctantly gave up the idea in consequence of the nephew's obstinacy; but I have it on Mr. Spencer's authority that this was not the case. In his own words: 'There was no dispute. My uncle gave up the idea when he saw that I was unfit.' That is to say, it became clear to the Rev. Mr. Spencer that the mind of his nephew was of a type which could not be fitted into the university mould. He saw that it would follow a bent of its own, and would not be forced into conventional channels. Much has been said of the loss which Spencer has sustained through exclusion from the atmosphere and training of university life. In dealing with exceptional minds, whose evolution is pre-determined along original lines by innate capacity and genius, no good purpose is served by appealing to general rules, which from the nature of the case can deal only with the expected and the calculable, not with those out-

standing individualities which defy the ordinary laws of averages and probabilities. One drawback certainly was attached to Spencer's exclusion from university life. He was compelled to face not only a hostile public, but the insidious opposition of university cliques, who could not bear to see a new thinker of commanding power step forward into the intellectual arena without the hall-mark of university culture. Had Spencer been the centre of an admiring group of university disciples, his system would have come into vogue much earlier; it would, in other words, have become fashionable. As it was, after the gradual decay of home-made philosophies, Hegel became the idol of university circles, and Spencer was left, a voice crying in the wilderness. Notwithstanding all this, Spencer gained more than he lost by missing the conventional university training. However reluctant the Rev. Mr. Spencer was to abandon his deeply-cherished design, he admitted in after-years that in following the promptings of nature his nephew had acted wisely. He doubtless saw that the very qualities which unfitted his nephew for the routine of a classical curriculum were precisely the qualities which gave him his great superiority in science and philosophy. A grinding in dead languages and a saturation in old-world methods and ideas might have seriously checked the faculties for observation and massive generalisation which, when left to develop naturally,

have made their possessor an unrivalled king in quite a new intellectual sphere, in which stand in unique conjunction the widest speculative thought and unparalleled analytic power.

The abandonment of the university design led to a period of uncertainty as to young Spencer's future. He returned home. The practical outlook seemed vague and uncertain. In the absence of any well-defined plan, his father secured him an assistantship in a school. The teaching profession was one in which Spencer might well have shone provided the curriculum were framed on a rational and scientific basis. As a teacher he would have found himself out of sympathy with modern systems, and sooner or later his career would have been cut short. One quality invaluable in a teacher he possessed in a pre-eminent degree—that of luminous exposition. Those who have had the privilege of conversing with Mr. Spencer have been at once struck with the marvellous lucidity of his handling of the most abstruse topics. Into ordinary conversation he carries the habits of thought and exposition which other men usually leave behind in the study. There is no pedantry, no formalism: sweep of thought, clearness in statement, fertility of illustration, and lucidity of exposition, are wedded to conversational charm. This expository power struck John Stuart Mill forcibly in his first interview with Spencer. A friend of Mill once told me

of Mill's admiration for Spencer's power of presenting a full-orbed view of his subject in language at once precise and luminous. It is plain that Spencer would have made an ideal teacher. However, circumstances rather than design cut short his pedagogic career. In the autumn of 1837 young Spencer, whose early bent was towards science, especially on the mathematical and mechanical sides, received and accepted an offer from the resident engineer of the London division of the London and Birmingham railway, then in process of construction. For a year and a half he worked in London as a civil engineer, and subsequently, for two and a half years, on the Birmingham and Gloucester railway. During this time he showed his interest in the intellectual side of his profession by contributing several papers to the *Civil Engineer Journal*, and his inventive faculties found scope in the invention of a little instrument called the velocimeter, for calculating the speed of locomotive engines. Again his life-plan was destined to be changed. After eight years at civil engineering, young Spencer was brought face to face with a crisis by the disasters which followed upon the great railway mania. In the reaction which followed, Spencer, with other young men similarly situated, suffered. The demand for new railways fell off, and consequently the demand for civil engineers. At the age of twenty-six

Spencer had to begin the world afresh. He returned to his home in Derby. Meanwhile Spencer's mind had been branching out in other quarters besides civil engineering. He was musing upon political philosophy and science. In 1842 he contributed to a paper called *The Nonconformist* a series of articles on 'The Proper Sphere of Government.' These, after due season, appeared later in pamphlet form. In his home retreat at Derby his mind was still further matured by reading and thinking. Man, however, does not live by thought alone, so it behoved Spencer to turn his attention to the bread-and-butter side of life. He cast his eyes toward journalism, and after a miscellaneous period he was, in 1848, in his own words, 'invited to take the position of sub-editor of the *Economist* newspaper.' This post he held till 1853. In London he got his feet on the first rung of the ladder of fame. The history of his long, toilsome, and heroic ascent is mainly the record of the various stages of his mind in the conception and elaboration of that vast system of thought with which his name is imperishably associated.

CHAPTER II

INTELLECTUAL ENVIRONMENT

WHILE engaged in the work of a civil engineer, and before he settled in London, Spencer was quietly pondering over the great intellectual problems of the time. Naturally he was led by his fondness for science to study the highest authorities in the various departments. At the age of twenty he began to study Lyell's *Principles of Geology*. Without demur he accepted the development as opposed to the special creation theory of the earth and man, though like the rest of his contemporaries he could not trace the process in its detail, nor understand its nature. In order to follow the evolution of young Spencer's mind it will be necessary to describe the intellectual environment in which it moved in those early days.

The early years of the century were years of great fermentation, theological, philosophic, political, and social. The practical energies of the nation, freed from the great strain of the continental wars, found new outlet in the spheres of commerce and

industry. Scientific study of nature, no longer tabooed by theology, demonstrated its utility by an imposing record of inventions and discoveries, whose influence on the national prosperity was at once dramatic and all-embracing. Such a transformation of the industrial and social order could not take place without exerting a potent influence upon the higher thought of the time. Science, which in the practical sphere had achieved colossal triumphs, and given man power over nature, could not but be greatly influenced by the new forces which it had called into existence. Science, as the worker of miracles, became the idol of the hour: at its shrine the popular as well as the cultured intelligence of the day worshipped fervently. The printing-press teemed with books for the diffusion of useful knowledge, while to the more highly cultured the British Association, established in the first half of the century, proved itself a veritable Mecca. The union between science and industry had one effect—discoveries, inventions, and theories came pell-mell, to the utter confusion of the methodical thinker, with his desire to reduce his intellectual knowledge to something like order. In the whirl of practical details, thought in the wide and comprehensive sense was paralysed; the wood could not be seen for the trees. In the midst of the jubilation over the advance of discovery, in the midst of the eulogiums over the material victories which Science

had brought in its train, there were those who remembered that man does not live by facts alone, those who are ever ready to string facts on the thread of philosophic or scientific generalisations. Since the days of Bacon and his *Novum Organum*, thinkers have cherished the ambition to discover knowledge by the slow but sure methods of science, and to weave that knowledge into one comprehensive whole.

It soon became evident that a new theory of man and his relation to the Universe was following in the wake of science and its discoveries. In Scotland, the theological spirit, much as it wished, could not prevent the reading public from being influenced by such books as Combe's *Constitution of Man*, and the famous *Vestiges of Creation*. On the Continent the same spirit of scientific inquiry and theorising was abroad. This desire of science not to remain content with looking upon nature as a huge museum in which the highest aim was duly to ticket and label phenomena, found expression in Humboldt's *Cosmos*, which appeared in 1845. About the same time appeared Whewell's *History and Philosophy of the Inductive Sciences*, which was intended to be the continuation of the work of Bacon 'renovated according to our advanced intellectual position and office.' A thinker of the type of Whewell labours under one distinct disadvantage — while he is engaged upon ultimate generalisations, discoveries

are being made which may knock away the foundation of his entire cosmical structure. This was precisely the fate of Whewell. As Merz says in his valuable work on *European Thought*: 'In the year 1857, the date of the publication of the latest editions of Whewell's works, nothing was popularly known of energy, its conservation and dissipation, nothing of the variation of species and the evolution of organic forms, nothing of the mechanical theory of heat or that of gases, of absolute measurements and absolute temperature; even the cellular theory seems to have been popular only in Germany. And yet all the problems denoted by these now popular terms were then occupying, or had for many years occupied, the attention of the leading thinkers of that period. But we find no mention of them in Whewell's Works.' Still, Whewell did great service to the cause of scientific thought. His was a bold attempt to reduce to something like coherence the confused mass of scientific knowledge. Underlying the book was the idea of the organic unity of the sciences; and if he failed to realise his ideal, the reason lay not in his lack of insight, but in the fact that scientists had not then discovered by observation and experiment the marvellous unity of nature.

The next great impetus to scientific thought came from Comte. In the history of scientific thought the name of Auguste Comte will always occupy an honoured place. It is customary to

belittle Comte on account of his vagaries in connection with the Religion of Humanity, but we must not allow his failings to blind us to the great work he did in the sphere of scientific thought. Science, as has been pointed out, had a bewildering effect upon the average mind. Along with the material blessings which came in its train, Science had incidentally come forward as a rival to Theology, as an interpreter of Man and the Universe. In the minds of many people, even thinkers of the calibre of Faraday, the theological and scientific conceptions lived comfortably side by side. But studious readers of the signs of the times had come to the conclusion that Theology and Science were deadly rivals, yet perplexity existed as to how they were related in the history of thought and speculation. It was the merit of Comte to attempt to show the position which Theology, Metaphysics, and Science hold in the progress of humanity. Whether or not we agree with his famous law of the three stages, this, at least, must be conceded—Comte by his law has rendered luminous a large tract of history which, in the hands of the average historian, had been a perfect maze. In a rough sort of way we do get a fruitful view of human progress when we say with Comte that Theology failed in its interpretation of the Universe, because it busied itself with personal causes, while Metaphysics also went wide

of the mark because it dealt in entities, whereas Science has been fruitful in so far as it has confined itself to the study of phenomena on the lines of observation and experiment. In the purely scientific sphere, Comte did great service in his efforts to show that progress does not take place at haphazard, as a superficial student of the history of discoveries and inventions is apt to think, but that through the seemingly aimless growth of science there is traceable a definite law. Before Comte the various sciences were treated as so many distinct branches of man's knowledge of nature. Any classification which existed was of an artificial kind. For this Comte substituted a classification which had the note of organic unity. The sciences, according to him, are six in number: Mathematics, Astronomy, Physics, Chemistry, Biology, and Sociology. The merit claimed for this arrangement by Comte is that the order of their classification is the order in which the sciences have been evolved—the order in which they have passed from the theological or metaphysical into the scientific stage. If we wish to learn how far scientific conceptions are gaining ground, we have a fairly reliable method if we apply the Comtean classification. In Mathematics, Astronomy, and Physics, the scientific method pure and simple has long held sway. It is not, however, long since Chemistry and Biology were at the metaphysical stage, with its 'vital principle' and

such like entities, while in the region of Sociology prayers for success of war, for industrial prosperity, etc., show unmistakable signs of the theological stage.

Valuable as was the work of Comte, it was vitiated by one great defect. In his antipathy to the study of causes, he was led to confuse two things which are quite distinct—final or theological, and efficient or mechanical cause. The result of this was that he refused to trace his six sciences to a common root. All attempts to get behind phenomena, even to the subtle laws and forces which seemed to be the key to phenomena, were ruthlessly opposed by Comte. As Lester F. Ward, an American writer, puts it: 'Among the most lamented of Comte's vagaries is his uncompromising hostility to all the modern hypotheses respecting the nature of light, heat, electricity, etc. He classed all these along with gravitation, and declared that all the efforts expended in the vain search after origin, nature, or cause were simply squandered. These agencies, according to him, were merely phenomena, and were to be studied only as such. The imaginary interstellar ether was an ontological conception or a metaphysical entity to be classed along with phlogiston and all the spirits of the laboratory and the imaginary occupants of the bodies of men, animals, and inanimate objects. The undulatory theory of light was no better than the emission

theory, and both equally vain attempts to know what from the nature of things can not be known. In fact, the domain of the unknowable in Comte's philosophy was enormous in its extent, and when we contemplate the little that was left for man to do we almost wonder how he should have regarded it worth the labour of writing so large a work. The amount of mischief which this one glaring fallacy accomplished for Comte's system of Positivism, insinuating itself into every chapter, and more or less vitiating the real truths contained in the work, was so great as to give considerable colour to the claim that pure Comtism, if it could be made to prevail and exert its legitimate influence upon human inquiry in the future, would so far cripple every department of science as to throw it back into mediæval stagnation. For it would strike a fatal blow at all true progress in human knowledge by crushing out the very spirit of inquiry, and would quench all interest in phenomena themselves by prohibiting the search after the springs and sources—the causes—of the phenomena which furnish the true life and soul of scientific research.'

Comte failed to realise his ideal, for a reason which explains the slow progress that has hitherto been made in the great task of formulating a scientific philosophy of the Universe. For this two things are needed—vast accumulation of facts and great synthetic power. A scientist with nothing

but a passion for facts is simply an intellectual hodman, whose relation to the philosophical scientist is that of a bricklayer's labourer to the architect. On the other hand, great speculative power working upon imperfect knowledge leads often to sheer absurdity. Witness Germany with its natural philosophy. The ideal condition is one in which fact and theory go hand-in-hand. Comte came as near as was possible in his day to providing a scientific key to Nature. All that was needed was for Comte to discover and formulate the law of unity, which, like a golden thread, runs through his six sciences. For logical purposes, it is necessary to treat the various sciences as if they stood for separate independent classes of facts in Nature, but the discoveries which were taking place just at the close of Comte's career substituted the dynamic for the statical conception of Nature. Herbert Spencer profited by the new conception of Nature of which Comte was unable to take advantage. From the point of view of the scientific thinker, the dominating fact of the century may be defined as a new conception of Nature. Until Spencer began to write, the conception of Nature was that of a colossal machine, the various parts of which were specially manufactured to fit into their respective places. Unity, of course, there was, but the unity was in the mind of the Supernatural Mechanic, not in the material of which the machine was constructed.

Alike in the works of scientists and theologians of the early century, we find a total absence of the thought of organic unity as applied to the Cosmos. Not only did the thinkers of the time fail to hit upon the great fact of the unity of the Cosmos, but they had resigned themselves to the view that it was impossible to make such a discovery. Caught in the meshes of a false philosophic method, the philosophers of the Rational school placed an arbitrary limit to speculation. Mill's *Logic* was the text-book of the school. Mill's admiration of Comte finds explanation in the fact that the great Frenchman had carried the method of induction in interpretation of the Universe to what seemed to be its utmost limit. According to Mill, knowledge resolves itself into a recognition of particulars. What we call a law is simply a recorded observation that phenomena follow each other in a regular order. There is no inherent necessity that phenomena should be inter-related. Comte's law of the sciences determined nothing as to the necessary relations between the six sciences which he named: all that could be said was that the human mind in the course of its progress came to a knowledge of the sciences in the way indicated by Comte. Mill, like Comte, considered that scientific men were going beyond the inductions of experience when they endeavoured to attribute to Nature any kind of inherent regularity and necessity. Hence his remark that in some after

planet the axiom that two and two make four might not hold. With Mill a scientific philosophy had done its work when it revealed the existence of a number of apparently permanent laws whose inter-relations were undiscoverable, and upon which the regularity of the Cosmos depended. Mill's conception of the world was that of a collection of facts grasped by the mind by virtue of the law of association—facts existing by no inherent necessity, but resting in the last analysis on the arbitrary and the accidental. In our Cosmos these facts exist in one way: elsewhere the connection might be totally different. Thus, as Taine puts it, the Experiential philosophy, the philosophy which plumed itself upon refusing to go a step beyond Induction, ends in 'an abyss of chance, an abyss of ignorance.'

Here we have the explanation of Mill's curious attitude to religion, as revealed in his posthumous essays. At bottom Mill's conception was that of Theology, with its postulation of an unknown cause which at any time may reveal itself in an arbitrary manner. Mill was bound to admit that things need not necessarily exist in the connection in which we now find them. At any moment the connection might be severed; consequently he was driven to admit that the question of miracles really turned on the question of evidence. We find the same curious sympathy with theological conceptions in Huxley, who was constantly throwing a sop to the

theologians, in the admission that he was quite ready to believe the most profound mysteries in religion, if the evidence were forthcoming, on the ground that Science contains as many mysteries as anything to be found in Theology. In other words, Huxley, like Mill, contended that it was not possible to detect in Nature any facts held together by necessity. Comte, Mill, and Huxley never got beyond the interpretative standpoint of Hume, whose Agnosticism, it should be remembered, extended to science as well as to theology. We shall see later that Spencer's contribution to a scientific conception of the Universe consisted in going beyond Hume, Comte, and Mill, in the direction of including all generalisations under one generalisation, and in supplementing the inductive method by the deductive, thereby demonstrating the necessary and organic unity of the Cosmos. So much for the scientific conceptions of the Universe which were prevalent among advanced thinkers when Spencer began to study science in a broad and comprehensive manner. Along with the scientific was the philosophic conception, which also formed one of the factors in his intellectual environment.

The French Revolution will always remain a landmark in modern history. If the student of history desires to understand the lines of modern thought and life, he must go back to that great political and social upheaval. It is a mistake to suppose that the

Revolution exhausted its influence mainly in the sphere of public activity. In all departments its reactionary effect was felt, and in none more so than in Philosophy. What do we mean by Philosophy? The answer to that will be easier when we consider what is meant by Science. Science has been defined as the systematisation of our knowledge of phenomena. In a word, Science deals with the modes of existence; Philosophy with the nature of existence. It is clear that the conceptions which Philosophy forms of the nature of existence will react powerfully on the conception which Science will form of the modes of existence. Assume that Matter is the ultimate fact, and you are logically committed to a materialistic conception of Mind and of Society—a conception which must have far-reaching influence upon individual and social evolution. If we wish, then, to find the key to the development of the nineteenth century, we must go back and try to discover the philosophical conceptions which dominated the previous era. The apostles of the Age of Reason adopted Materialism as their philosophic creed. Voltaire and Rousseau were Deists, but the influential party in revolutionary circles were undoubtedly Materialists. The creed of Diderot and his apostles was summed up in Holbach's famous *System of Nature*, in which everything, from the movements of the solar masses to the movements of the soul, was interpreted in

terms of matter. Even before the Revolution the dreariness of the French philosophy struck the highest minds of the time with a kind of despair. Thus Goethe says: 'The materialistic theory which reduces all things to matter and motion appeared to me so grey, so Cimmerian, and so dead, that we shuddered at it as at a ghost.'

Its downfall was inevitable when the Age of Reason ended in a carnival of diabolism. As George Henry Lewes puts it: 'The reaction against the philosophy of the eighteenth century was less a reaction against a doctrine proved to be incompetent than against a doctrine believed to be the source of frightful immorality. The reaction was vigorous, because it was animated by the horror which agitated Europe at the excesses of the French Revolution. Associated in men's minds with the saturnalia of the Terror, the philosophic opinions of Condillac, Diderot, and Cabanis were held responsible for the crimes of the Convention; and what might be true in those opinions was flung aside with what was false, without discrimination, without analysis, in fierce, impetuous disgust. Every opinion which had what was called a taint of Materialism, or seemed to point in that direction, was denounced as an opinion unnecessary, leading to the destruction of all religion, morality, and government.' In the reaction which followed the French Revolution, we have a vivid illustration of the close connection

which exists between philosophy and everyday life. The sudden contempt into which Materialism fell may be taken as an instinctive, though irrational, testimony to the intimate relation which exists between abstract thought and concrete life. It may be taken for granted that the conceptions which people form of the Universe and of their relation to it will largely influence the nature of the social bond. Morality and human ideals generally cannot remain unaffected by theories which make Matter or Spirit the root-principle of the great cosmical scheme. In Holbach's *System of Nature* we have the materialistic theory worked out logically into a comprehensive ethical and sociological creed. In the famous French *Encyclopædia of Sciences* Materialism had formal embodiment as a system of philosophy. Nature was viewed simply as a piece of mechanism, man as the product of a complex molecular arrangement, mind the development of animal sensations, morality as a phase of self-interest, religion as a product of emotional hallucination, and government as an ingenious arrangement between despotic kings and designing priests to keep the people in slavery. When the crash came it was natural that the whole scheme of Materialistic Philosophy should totter to the ground. What was to take its place?

Naturally thinkers looked around for a set of first principles which would give repose to their minds

as well as stability to the social system. The Catholic section, headed by de Maistre; the Royalists, inspired by Chateaubriand; and the Metaphysicians, stimulated by the Eclectic School of Cousin, united their forces against Materialism. For a time Eclecticism held the field, but the work of construction both in France and Britain needed a new set of first principles which neither nation could supply. The constructive principles were imported from Germany. The Germans—Kant, Fichte, Schelling, and Hegel—attacked the problem of Existence from the spiritual instead of from the material side. To the Materialists, French and English, of the Revolution school, the Germans said that the great mystery of Being was insoluble by mechanical methods. Reduce Matter, they said, to its constituent atoms and you fail to seize the principle of life; it evades you like a spirit. With the Germans—especially Hegel—Cosmology and Psychology grew naturally out of Ontology: Nature and Man were incarnations of the Absolute. Coleridge and Carlyle, in their own peculiar ways, vigorously combated the Materialistic Philosophy with its denial of necessary truth, its repudiation of religion, and its substitution of Utilitarianism for a moral sense. What Carlyle and Coleridge did for the cultured class generally Sir William Hamilton did for the purely philosophic section. Though one part of his philosophy—the doctrine of the Relativity of Know-

ledge—has been used in the interests of Agnosticism, the general drift of his influence was anti-materialistic. How formidable a foe he was may be judged by the elaborate attempt of Mill to discredit Hamilton as an authority. The contrast between the two philosophies is well put by Mill in his essay on Coleridge. Mill says: 'The German-Coleridgian doctrine expresses the revolt of the human mind against the philosophy of the eighteenth century. It is ontological, because that was experimental; conservative, because that was innovative; religious, because that was abstract and metaphysical; poetical, because that was matter-of-fact and prosaic.' Political circumstances were soon to lead to a revival of the Experiential as opposed to the Intuitive school, the school of Hume, Diderot, and Mill, as opposed to Kant and his British interpreters. With the peace of 1815 the old despotism, under the name of the Holy Alliance, began to press heavily upon Europe. People forgot the evils of Anarchy under pressure of present despotism. Institutions which were looked upon as refuges from the Revolutionary storm were now used as prison-houses for the free spirit of man. A philosophy which tended to prop up existing institutions, to justify existing beliefs, and, when questioned, to fall back upon innate ideas, intuitions of the mind—such a philosophy became the natural target of thinkers of reforming proclivities. It was not without reason

that the political Radicals of the early years of the century were bitter opponents of the Intuitive school. Mill senior, and Bentham, did much to pave the way for the revival of Empiricism, but the philosopher of the sect was John Stuart Mill.

In Mill's hands Empiricism lost its old fanaticism. So long as a thinker of materialistic tendencies never gets beyond the popular ideas of Matter he will have no difficulty in finding in experience a steadfast ground of certainty. But Mill was too well versed in psychology, was too acute a thinker, to find repose in the materialism of the old school. By sheer stress of logic, Mill was driven close to Hume's position by his definition of Matter as a permanent possibility of sensation, and Mind as a permanent possibility of feeling. With such a hesitating and uncertain cosmological and psychological creed, it is easy to understand Mill's contention that in science there is no such thing as necessary truth; in ethics no such thing as moral intuition; and in politics no such thing as authoritative belief: over every department hangs a cloud of uncertainty. In his remarkably suggestive book on British philosophy, Professor Masson puts this characteristic of Mill's whole philosophy very well when he says: 'Mr. Mill's logic corresponds with what the science of logic could alone be consistently with his fundamental psychological principle. It could not be like the old logic and Hamilton's logic, a science of the

necessary laws of thought, but only a science of the method of quest after experimental truth or probability. So in his fine essay on liberty the radical idea is that one can never be surer of anything, be it even the forty-seventh proposition of the first book of Euclid, than in proportion as the chances of contradiction are exhausted; and the high value set thus upon human freedom, and even upon eccentricity of thought and action, seems to be grounded on the conviction that the human race can never know what it may attain to in the shape either of knowledge or of power, until it has sent out a rush of the largest number of individual energies simultaneously, and with the least restraint from law or custom, in all directions. As for the essay on Utilitarianism, it is expressly a restatement of Paley's and Bentham's theory of expediency as the sole possible foundation of morals, but with a suggestion of this higher and more exquisite definition of expediency characteristic of Mr. Mill, that it means the largest possible amount of pleasure, and the least possible amount of pain, not to you or me or this age or all mankind only, but to the sum-total of sentient existence. In short, if I am not mistaken, Mr. Mill's writings prove that if he thinks of any one particular mode of thought among his contemporaries as being more than any other chargeable with the total mass of obstruction, fallacy, and misery that yet rolls in the heart of

society, as being more than any other the False God or Baal or Moloch of the human mind—it is the theory of necessary beliefs.'

In all this Mill was thoroughly consistent. Having failed to discover any inherent necessity in the Cosmos, he was unable to find any such necessity in the mind of man. Effective enough in its polemic against the reigning Intuitionalism as represented by Hamilton, Empiricism, even in the hands of an acute thinker like Mill, was incapable of returning satisfactory answers to the fundamental problems of Psychology. In regard to the root-question, that relating to the constitution and function of the mind, Mill remained virtually at the position of Locke. With Mill, as with Locke, the mind was a blank sheet of paper, upon which, by means of the law of association, experience was duly registered and transformed into coherent knowledge. In such a system there was no room for *a priori* ideas; all was traceable to experience. So far good, but experience showed that in the mind certain beliefs impressed themselves with an intuitive force and an absoluteness which found no explanation in the experience of the individual. The axioms of geometry and of causality were not reached by the individual through a purely inductive process. How were these to be explained? Before Empiricism could give a rational answer to this question it had to come under the transforming influence of the

evolutionary idea. In Psychology as in Cosmology Spencer's contribution was so original as to transform the old Experiential system of Mill, and bring to an end the long-standing feud between the Intuitionalists and the Experientialists. That will be explained in all detail later. Meanwhile, it was necessary, in order to understand the revolution worked by Spencer in philosophy, to have a clear conception of the problems which came before him for solution.

CHAPTER III

EVOLUTION OF THE EVOLUTION THEORY

It is a mistake to suppose that when he began his studies Spencer set himself consciously and deliberately to discover the unifying root of Nature's multiform manifestations. At first his mind was mainly directed to questions of a politico-social nature. In the early years of the century, political thinkers were greatly exercised about Government, its nature and limits. Brought up in a democratic circle, inheriting the traditions of Liberalism on the side of religious dissent and political Radicalism, it was natural that Spencer's early thoughts should run in a sociological direction. Ever in search of first principles, it was also natural that he should endeavour to seek the scientific basis of Government. As the earliest products of his thinking, his letters on *The Proper Sphere of Government*, published in the *Nonconformist* newspaper in 1842, and republished in pamphlet form in 1843, demand attention. In these letters we find emphatic insistence on the view that social phenomena con-

form to invariable laws: the ethical progress of man as due to social discipline, the spontaneous nature of society, with a consequent discouragement of State interference and control. Not satisfied with his treatment of the subject, Mr. Spencer resolved to deal with it on a more comprehensive scale. In 1850 appeared *Social Statics*, the object of which was to base his practical views of the nature and scope of Government on a coherent set of first principles. At a later stage of the present work, when dealing with Sociology, an attempt will be made to show the nature of Spencer's contributions to political science as compared with the speculations of previous thinkers from Locke to Mill. Meanwhile, in tracing the evolution of Mr. Spencer's mind, it is necessary to point out that in *Social Statics* are to be found the germs of those pregnant speculations which were to lead to the far-reaching cosmical generalisation which, like a magnet, gathers to itself the scattered detached fragments of scientific thought.

In *Social Statics* we find Mr. Spencer giving expression to his dissatisfaction with the prevailing school of political thought, with which he was, on the practical side, in close sympathy—namely, the Utilitarian school. He felt that on the philosophic side Utilitarianism, as defined by Bentham and his followers, lacked theoretic stability. Spencer set himself to ask and answer the questions—What is

society? and What are the relations between man the unit and society the mass? In harmony with their fundamental principle, the Utilitarians founded their conception of society on Induction. Men, they recognised, all made happiness the goal of their endeavour. Society is composed of numbers of men in search of happiness; consequently the highest type of society would be one in which the greatest number of its members enjoyed the greatest amount of happiness.

Here, as in science and philosophy, the school of Bentham and Mill displayed the arbitrary nature of their fundamental principle. No attempt was made to demonstrate the necessary connection between individual and social happiness and the general laws of life. Man was viewed from the statical standpoint. Human nature was treated after the style of the eighteenth century philosophers as a stable product. Human nature is everywhere the same, summed up the eighteenth century point of view. The evils of society were held to be due to bad governments. Let legislation aim at the greatest happiness of the greatest number, and all will go well. Now such a mode of reasoning did not commend itself to Spencer. He argued that before an all-embracing social law can be legislatively formulated, we must first discover what society is, and how man the unit stands related to society. We must not rest content with

induction: we must discover the necessary bond between the unit and the mass. And when that is accomplished, we may be in a position to deduce the necessary laws of that relationship. Manifestly at the outset an answer had to be given to this question—Is society a natural or an artificial product? The rationalist thinkers of the eighteenth century favoured the view that society was an artificial product.

Rousseau, with his famous theory of a state of nature, simply gave expression in exaggerated form to the idea generally entertained that society was largely the result of manufacture, of deliberate design, too often the outcome of base motives. Governments held an exaggerated importance in the minds, not only of the eighteenth century thinkers, but also of the school of Philosophic Radicals—the Mills and the Benthams. Even John Stuart Mill, in his book on *Representative Government*, shows traces of this view by his constant anxiety lest, in the absence of political checks and counterchecks, society should proceed along wrong lines. Society, until Spencer wrote his *Social Statics*, was viewed almost exclusively from the political side. Spencer changed the point of view from the political to the biological. It is a common objection to the Spencerian system of thought that it is simply a revival in modern times of the *a priori* methods of the Schoolmen—a kind of

materialistic Hegelism in which facts are made to fit a preconceived theoretic framework. Nothing could be further from the truth. I confess myself to have held some such view. With many others I supposed that Spencer had started consciously with a vast cosmical theory, and had then explored the realm of science for illustrations and verifications. In conversation Mr. Spencer assured me that such was not the case. He began with fact; he stuck by the inductive process; and it was only at a certain stage of his scientific exploration that the thought flashed across his mind that the law of biological and social evolution is a universal process, traceable in the cosmical changes and in the latest results of civilisation. But we do not need to rely upon conversation on this point. In one of his essays, *Reasons for Dissenting from M. Comte*, there is an interesting autobiographic statement. In reply to those who classed him erroneously as a follower of Comte, Spencer says: 'And now let me point out that which really has exercised a profound influence over my course of thought. The truth which Harvey's embryological inquiries first dimly indicated, which was afterwards more clearly perceived by Wolff, and which was put into a definite shape by Von Baer—the truth that all organic development is a change from a state of homogeneity to a state of heterogeneity—this it is from which very many of the conclusions which I now

hold have indirectly resulted. In *Social Statics* there is everywhere manifested a dominant belief in the evolution of man and of society. There is also manifested the belief that this evolution is in both cases determined by the incidence of conditions —the actions of circumstances. And there is further, in the sections already referred to, a recognition of the fact that organic and social evolution conform to the same law. Falling amid beliefs in evolutions of various orders, everywhere determined by natural causes (beliefs again displayed in the *Theory of Population* and in the *Principles of Psychology*), the formula of Von Baer set up a process of organisation. The extension of it to other kinds of phenomena than those of individual and social bodies is traceable through successive stages. It may be seen in the last paragraph of an essay on *The Philosophy of Style*, published in October 1852; again in an essay on *Manners and Fashion*, published in April 1854; and then in a comparatively advanced form in an essay on *Progress: Its Law and Cause*, published in April 1857. Afterwards there came the recognition of the need for modifying Von Baer's formula by including the trait of increasing definiteness; next, the inquiry into those general laws of force from which this universal transformation necessarily results; next, the deduction of these from the ultimate law of the persistence of force; next, the perception that there

is everywhere a process of Dissolution complementary to that of Evolution; and finally, the determination of the conditions under which Evolution and Dissolution occur. The filiation of these results is, I think, tolerably manifest. The process has been one of continuous development set up by the addition of Von Baer's law to a number of others that were in harmony with it.'

In *Appleton's Popular Science Monthly* for February 1897, there appeared an article on Mr. Spencer, by Professor Hudson of California, in which the evolution of Mr. Spencer's mind is minutely traced, by the aid of an important letter on the subject from Mr. Spencer himself. Professor Hudson says: 'I am fortunate in having before me as I write a letter in which he was kind enough to outline for me the important stages in his progress toward the great doctrines of the synthetic philosophy. If, in following his account and in occasionally reproducing, as I shall venture to do, his own words, I am forced to touch again upon points already brought out, this will scarcely be deemed ground for regret, since the slight repetition involved will serve perhaps to throw the whole subject into clearer relief. The simple nucleus of his philosophic system first made its appearance in *Social Statics*, where, in the chapter entitled "General Considerations," mention is made of the biological truth that low types of animals are composed of many like parts not mutu-

ally dependent, while higher animals are composed of parts that are unlike and are mutually dependent. This, he writes, "was an induction which I had reached in the course of biological studies—mainly, I fancy, while attending Professor Owen's lectures on the Vertebrate Skeleton." With this was joined the statement that the same is true of societies, "which begin with many like parts not mutually dependent, and end with many like parts that are mutually dependent." This also was an induction. "And then in the joining of these came the induction that the individual organism and the social organism followed this law." Thus the radical conception of the entire system took shape before Mr. Spencer had become acquainted with Von Baer's law, which, as we have seen, did not occur till two years later. This law, though applying to the unfolding of the individual only, had none the less its use. In furnishing the expression "from homogeneity to heterogeneity," it presented a more convenient intellectual implement. "By its brevity and its applicability to all orders of phenomena, it served for thinking much better than the preceding generalisation, which contained the same essential thought." The essays which followed *Social Statics* were marked by the establishment of various separate inductions in which other groups of phenomena were brought under this large principle, while in the first edition of the *Psychology*, not only was the same principle

shown to comprehend mental phenomena, but there was also recognised the primary law of evolution—integration and increase of definiteness. What followed may best be given in Mr. Spencer's own words: "Then it was that there suddenly arose in me the conception that the law which I had separately recognised in various groups of phenomena was a universal law applying to the whole Cosmos: the many small inductions were merged in the large inductions. And only after this largest induction had been formed did there arise the question—Why? Only then did I see that the universal cause for the universal transformations was the multiplication of effects, and that they might be deduced from the law of the multiplication of effects. The same thing happened at later stages. The generalisation which immediately preceded the publication of the essay on *Progress: Its Law and Cause*—the instability of the homogeneous—was also an induction. So was the direction of motion and the rhythm of motion. Then having arrived at these *derivative* causes of the universal transformation, it presently dawned upon me (in consequence of the recent promulgation of the doctrine of the conservation of force) that all these derivative causes were sequences from that universal cause. The question had, I believe, arisen, Why these several derivative laws? and that came as the answer. Only then did there arise the idea of developing the whole of the universal transforma-

tion from the persistence of force. So you see the process began by being inductive and ended by being deductive; and this is the peculiarity of the method followed. On the one hand, I was never content with any truth remaining in the inductive form. On the other hand, I was never content with allowing a deductive interpretation to go unverified by reference to the facts.'' ' The cautious method of induction employed is evident from this extract, and is a sufficient answer to those who twit Mr. Spencer with dealing purely in hypotheses. Mr. Spencer's great originality will be found to consist in the unique manner in which he has combined the two processes, inductive and deductive. He has taken away the reproach of empiricism from scientific thought, and the reproach of vague theorising from philosophic thought. Thus slowly and unconsciously was Mr. Spencer drawn on to the path of his great discovery. His studies in biological and social science, as has been shown, led him to formulate a law of change and progress, which he suddenly discovered to be the law of all change and progress.

Notwithstanding Mr. Spencer's protests against being classed as a Comtist, the impression still largely prevails that in aim and method Spencerism and Positivism are fundamentally alike. That they are fundamentally different will be evident from comparison of the two systems. With Spencer the task of philosophy was to search for the unifying

root of the Cosmos. The task of the scientist is to discover the widest generalisations in particular divisions of the Cosmos. He formulates the laws of mechanics, of chemistry, of biology, psychology, and sociology. Is it possible to go beyond these generalisations? Is it possible still further to combine the generalisations of science under one supreme generalisation, without abandoning the methods of induction and deduction? Are the great divisions of phenomena arbitrary divisions, the result of the principle of the division of labour? Or is it possible to proceed still further, and show that the various sciences represent separate yet closely related stages in the development of the Cosmos—stages which are not arbitrary departments devised by man for intellectual convenience, but parts of one all-embracing process? In other words, is the Cosmos from star to soul pervaded by one law, or must we be content with the view that a rigorous analysis brings us down to a number of Permanent Causes or Laws which cannot be reduced to an ultimate unity? Comte held distinctly by the view that all attempts to reduce phenomena to a single law were chimerical. Such attempts he declared to be as futile as the old theological theorisings about a First Cause. Man's business, according to Comte, 'is to analyse accurately the circumstances of phenomena, and to connect them by the natural relations of succession and resem-

blance.' Failing to distinguish between final and efficient Causes, Comte unwittingly put an arbitrary limit to human inquiry. Content with noting the order of phenomena, he denied with scorn the right of the intellect to seek for the cosmical causes of phenomena. In harmony with his view Comte treated with contempt the cell doctrine, which, even while he was writing, was revolutionising physiological science; he tabooed all inquiries into the origin of the human race, he was hostile to all hypothesis about the nature of heat, light, electricity. Because Theology in its search for origins had taken the wrong road, he would prohibit the search altogether, forgetful of the fact that knowledge which limits itself to the mere noting of co-existences and resemblances among phenomena remains at the empirical stage. On the other hand, the Spencerian philosophy rests upon the possibility of framing, in relation to the Cosmos as a whole, a generalisation which shall be verifiable in detail. According to Spencer, the duty of Philosophy is, taking its stand upon the widest truths formulated by Science, to form a generalisation which shall link all phenomena into one organic whole. Comte denied the possibility of any such universal Synthesis. He included in one sweeping condemnation philosophies of the Cosmos as well as theologies of the Cosmos. Manifestly Spencerism and Comtism cannot be in fundamental agreement when Comte

passionately denounces precisely the speculative methods and results which have constituted the life-work of Mr. Spencer. Mr. Spencer was not indebted for his fundamental ideas to Comte, for the simple reason that not only had Comte no fundamental ideas about the Cosmos, but he denounced as metaphysicians or theologians in disguise all who ventured to formulate such ideas. In short, Spencer could not be indebted to Comte for his philosophy of the Cosmos, because Comte had no philosophy of the Cosmos: he put it forward as his chief title to fame that he had none.

But, it will be said, Comte claimed to be the author of the Positivist Philosophy. It will not do, in order to establish the originality of Mr. Spencer, to assert that Comte was no philosopher, in face of the fact that it is as a philosopher that he is known to history. Within certain definitely prescribed limits Comte was a philosopher, and deserves credit for producing new and fruitful conceptions of great value; but their value is historical and sociological, not cosmical. Banishing the idea of efficient cause, Comte quite logically was brought to a full stop at his six sciences. Beyond these he could not go. Here induction had completed its work, and all that an empirical philosophy could do was to show the historic relation between the sciences, and organise them in a social direction. This constituted Comte's originality. Having dis-

missed as futile all inquiries into causes which lay beyond the methods of the museum and the laboratory, having relegated ultimate laws to the region of the Unknown, Comte was compelled to organise his philosophy round Humanity instead of the Cosmos. All speculations which had no direct relation to human well-being were placed by him in the same category as theology. Such a contracted view of man's intellectual capabilities gradually transformed his philosophy into a religion in which intelligence was discouraged and authority elevated to the front rank as a factor in human progress. Conclusive evidence has been adduced to show that Mr. Spencer's conception of philosophy is fundamentally different from that of Comte. Spencer's view of causation, with his insistence upon the necessary co-relations of phenomena as distinguished from customary association, marks off his system completely from the Empiricism of Hume, Mill, and Comte, while his sociological like his cosmical conceptions have nothing in common with the Positivist system; in fact, the two systems agree only in their acceptance of those ideas which are held by all scientific thinkers, as opposed to theological conceptions of Man and the Universe. Meanwhile, before proceeding to study Mr. Spencer the philosopher, a few pages may fitly be devoted to Mr. Spencer the man.

CHAPTER IV

PERSONAL CHARACTERISTICS

THE ten years from 1850, when he published his first book, *Social Statics*, till 1860, when he issued the prospectus of his *Synthetic Philosophy*, were fruitful to Mr. Spencer both socially and intellectually. Although his writings were not popular, they brought him into notice in circles where high thinking was sure to be appreciated. The intervals of leisure enjoyed while on the staff of the *Economist* Mr. Spencer utilised in contributing to the leading reviews, notably the *Westminster*, which at that time had as sub-editor Mary Ann Evans, destined later to take the world by storm as George Eliot. In the *Life of George Eliot* are to be found a number of interesting references to the rising philosopher. In a letter to Mr. Bray about the end of September 1851, George Eliot writes: 'On Friday we had Foxton, Wilson, and some other nice people, among others a Mr. Herbert Spencer, who has just brought out a large work on *Social Statics*, which Lewes pronounces the best book he has seen on the

subject.' In another letter to the Brays a year after she says: 'I went to the opera on Saturday, at Covent Garden, with my "excellent friend Herbert Spencer," as Lewes calls him. We have agreed that there is no reason why we should not have as much of each other's society as we like. He is a good, delightful creature, and I always feel better for being with him.' Writing to Miss Sara Hennell, she expresses herself thus: 'My brightest spot, next to my love of old friends, is the deliciously calm *new* friendship that Herbert Spencer gives me. We see each other every day, and have a delightful *camaraderie* in everything. But for him my life would be desolate enough.' Again: 'Herbert Spencer dined with us to-day—looks well, and is brimful of clever talk as usual. His volume of *Essays* is to come out soon. He is just now on a crusade against the notion of Species.' But perhaps the most interesting reference is to be found in the extract from the diary of George Henry Lewes, under date January 28, 1859: 'Walked along the Thames towards Kew to meet Herbert Spencer, who was to spend the day with us, and we chatted with him on matters personal and philosophical. I owe him a debt of gratitude. My acquaintance with him was the brightest ray in a very dreary, *wasted* period of my life. I had given up all ambition whatever, lived from hand to mouth, and thought the evil of each day sufficient. The stimulus of

his intellect, especially during our long walks, roused my energy once more, and revived my dormant love of science. His intense theorising tendency was contagious, and it was only the stimulus of a theory which could then have induced me to work. I owe Spencer another and deeper debt. It was through him that I learned to know Marian—to know her was to love her—and since then my life has been a new birth. To her I owe all my prosperity and all my happiness. God bless her.' In regard to the concluding remarks, rumour has it that Lewes supplanted Spencer in the affections of George Eliot. This is not the case. Mr. Spencer's relations with George Eliot from first to last rested on the basis of friendship pure and simple.

The reference by Lewes to Mr. Spencer's theorising tendency needs to be supplemented by reference to his passion for facts. He is equally removed from the hodmen of science who are content to throw down before their readers a confused mass of facts, and the fantastic theorists who weave cosmic speculations out of their inner consciousness. It is said of Cuvier that from the examination of a bone he could in his mind construct the entire animal. To Spencer a fact is valuable in so far as it enables him to place it in organic relation with other facts in an interpretative scheme of thought. He possesses an instinctive insight into the value of facts. The combination in his mind of philosophic and scientific

qualities, strange as it may seem, has somewhat retarded his fame. The philosopher who soars into cloudland blames Mr. Spencer for his utilitarian habits of thought, his constant reference to reality, and his resolute refusal to take imaginative flights. The men of science, on the other hand, are quite willing to admit his philosophic powers, but they are jealous of a thinker who has assimilated the results of science without having gone through the usual apprenticeship in the museum and the laboratory. Rather than frankly admit that in Mr. Spencer's mind the philosophical and scientific tendencies are uniquely blended, his opponents pursue a policy of detraction, with the hope of discrediting his influence as a speculative thinker and as a master of scientific method.

Reference has already been made to Mr. Spencer's great expository power. In regard to this Dr. Hooker once remarked, 'He talks like a book.' It is not to be supposed, however, that there is anything like pedantry in his conversation. He is as far as possible removed from the conventional conception of a philosopher, who is supposed to be so wedded to abstract meditation as to be in social life the embodiment of dreary dulness. There is nothing of the dry-as-dust about Mr. Spencer. I remember how agreeably surprised I was with my first meeting with the great man. I had expected to meet a grave and somewhat awe-inspiring philosopher, whose mind

was so absorbed in study of the Cosmos as to make him impatient of the trivialities of ordinary mortals. Instead, I found myself in presence of a bright, vivacious personality, a man of generous impulses, very much at home among the actualities of life, and withal brimful of humour. There is no assumption of superiority in Mr. Spencer's conversation. It is racy, pointed, vigorous. His criticisms of contemporary writers are calm, suggestive, and penetrative; and, great as is his fame, he never poses as an oracle, or, in Carlylean style, assumes pontifical airs. How far he is removed from everything like this is well illustrated by an incident which occurred at a London dinner-party. The hostess had invited a friend specially to meet Mr. Spencer. The guest found himself seated beside an elderly gentleman, to whom he addressed the usual commonplaces. During the evening he was astonished to hear the elderly gentleman addressed across the table as Mr. Spencer. In surprise he turned to him and exclaimed, 'Are you really Mr. Herbert Spencer?' Mr. Spencer, smiling blandly, and no doubt with a merry twinkle in his eye, quietly replied that he was. Until considerations of health forbade him, Mr. Spencer delighted in the social side of life. Daily he used to visit the Athenæum Club, not to study, but to enjoy a game of billiards, of which he was passionately fond. There he would be found with his coat off, as intent upon scoring a

victory against his opponent as he is in wrestling with a controversialist in the philosophic arena.

But after all, the interest in Mr. Spencer's life is of an intellectual kind. As Emerson says: 'Great geniuses have the shortest biographies. They live in their writings.' Specially does this hold of Mr. Spencer, whose seclusion, apart from indifferent health, was necessitated by the formidable philosophic scheme which he had mapped out for himself. In 1860, when forty years of age, he published the prospectus of a colossal scheme, namely, a new theory of the Cosmos, from its earliest nebular manifestations to its highest development in man and civilisation—a scheme bold in theoretic conception, and, considering Mr. Spencer's state of health, seemingly Quixotic in practical design. From this time onward the history of his life is mainly the history of a series of heroic endeavours, culminating in heroic achievement. How heroic were these endeavours will be made clear when the whole circumstances are fully considered. In addition to indifferent health—the result of a nervous breakdown consequent on over-work—Mr. Spencer had to face the fact that he had dedicated his life to an ideal in the realisation of which both adequate remuneration and fame must at best have been remote results. In an age when the main springs of human activity are largely conventional, when great deeds are done from desire

of immediate tangible reward, Mr. Spencer set the bright example of a career wholly devoted to universal ends, unblemished by that infirmity of noble minds—thirst for popular applause. With a determination positively heroic, an energy positively superhuman, the quiet, self-centred thinker set himself to wrestle with the great mysteries of Existence, undeterred by the chilly dreariness of the study, and untempted by the glittering allurements of the market-place. In his evidence given before the Copyright Commission, Mr. Spencer affords the reader a glimpse of the hard, stiff, lonely battle that had to be fought, uncheered by sympathy, and unrelieved by public approval. The autobiographic portion of his evidence runs as follows: 'I published my first work, *Social Statics*, at the end of 1850. Being a philosophical work, it was not possible to obtain a publisher who would undertake any responsibility, and I published it at my own cost. The edition consisted of 750 copies, and took fourteen years to sell. In 1855 I published the *Principles of Psychology*. There were 750 copies. I gave away a considerable number of copies, and the remainder—I suppose about 650—sold in twelve and a half years. I afterwards, in 1857, published a series of Essays, and, warned by previous results, I printed only 500 copies. That took ten and a half years to sell. Towards 1860 I began to publish a *System of Philosophy*. I decided upon the plan of

issuing to subscribers in quarterly parts, and to the public in volumes when completed. Before the initial volume, *First Principles*, was published, I found myself still losing. During the issue of the second volume, *Principles of Biology*, I was still losing. In the middle of the third volume I was still losing so much that I found I was frittering away all that I possessed. I found that in the course of fifteen years I had lost nearly £1200—adding interest, more than £1200,—and as I was evidently going on ruining myself, I issued to the subscribers a notice of cessation. . . . After the issue of the notice, property came to me in time to prevent the cessation. My losses did not continue very long after that. The tide turned, and my books began to pay. They were repaid in 1874—that is to say, in twenty-four years after I began I retrieved my position.' In addition he spent nearly £3000 in Sociological Tables.

That is to say, in the cause of truth Mr. Spencer for twenty-four years worked without fee or reward. His solitary intellectual labours were utterly ignored by the public, and in spite of that he laboriously and heroically toiled up the steep ascent of philosophy. In all this there is a grandeur quite Miltonic. In the midst of the general neglect Mr. Spencer had the sympathy of a number of philosophic thinkers, who knew his real worth. A number of American admirers, hearing of his deter-

mination to stop the series, forwarded to Mr. Spencer through Mr. Youmans, his devoted adherent and friend, a purse of money and a gold watch. The money, with characteristic high-mindedness, he accepted as a public trust for public ends. John Stuart Mill, I am informed, also stepped into the breach. He recognised in Mr. Spencer a new thinker of unique calibre, and with magnanimity far removed from personal rivalry, he offered Mr. Spencer a large sum to enable him to carry out his great undertaking. Mr. Spencer declined the offer, while fully appreciating the spirit in which it was made.

The financial difficulty solved, Mr. Spencer had another difficulty to face, which proved to be a life-long one—namely, chronic ill-health. In spite of all obstacles he has the satisfaction of knowing that the work mapped out forty years ago has been accomplished. In dignified strain he thus records his impressions in the concluding volume of his great undertaking: 'On looking back on the six-and-thirty years which have passed since the *Synthetic Philosophy* was commenced, I am surprised at my audacity in undertaking it, and still more surprised at its completion. In 1860 my small resources had been nearly all frittered away in writing and publishing books which did not repay their expenses; and I was suffering under a chronic disorder, caused by over-tax of the brain, which,

wholly disabling me for eighteen months, thereafter limited my work to three hours a day, and usually to less. How insane my project must have seemed to onlookers may be judged from the fact that before the first chapter of the first volume was finished, one of my nervous breakdowns obliged me to desist. But imprudent courses do not always fail. Sometimes a forlorn hope is justified by the event. Though, along with other deterrents, many relapses, now lasting for weeks, now for months, and once for years, often made me despair of reaching the end, yet at length the end is reached. Doubtless in earlier days some exultation would have resulted, but as age creeps on feelings weaken, and now my chief pleasure is my emancipation. Still there is satisfaction in the consciousness that losses, discouragements, and shattered health have not prevented me from fulfilling the purpose of my life.'

Though Mr. Spencer had finished his life-task, though in the process age had crept upon him and his physical energies had become weaker, yet were his philosophic powers unimpaired, his mental vision undimmed, and his intellectual strength unabated. Finding London life distracting, he retired to Brighton, where, in comparative solitude, he was enabled, as far as considerations of health would admit, to round off his great work by bringing it abreast of modern thought. His *First Principles*,

containing the groundwork of the system, needed little or no attention; but in Biology great strides had been made since his *Principles* were published, and Mr. Spencer set himself to publish a new and revised edition. The *Principles of Psychology*, too, stood in need of revision. The book had borne the brunt of recent attacks from the new Hegelian school which had sprung up in Oxford and Glasgow. These attacks had to be met, and in this and kindred tasks Mr. Spencer found his leisure at Brighton amply occupied. Along with the feeling of satisfaction at the completion of his task was the feeling of gratification at the steady advance of his fame and influence. In America, where Mr. Spencer first received recognition, his influence has been deep and far-reaching. Even to a greater extent than in England his works have moulded the religious and philosophic thought of the New World. On the Continent his books have been translated by enthusiastic disciples, and among Oriental thinkers, in India and Japan, the bold and massive generalisations of the Spencerian philosophy have found a congenial home. Following in the footsteps of philosophic fame have come offers of worldly honour, which Mr. Spencer has steadily refused. To a thinker whose triumphs have been won, not in the stifling atmosphere of personal ambitions, but in the ample region of pure intellectual discovery, the conventional honours of the

world seem pale and shadowy. So far as conventional distinctions are concerned, Mr. Spencer prefers to end life as he began—a devoted, austere worshipper of truth, removed alike from the distractions of the market-place and the allurements of social distinction.

CHAPTER V

THE COSMOS UNVEILED

A COMMON charge against Mr. Spencer is that he is a Materialist. Again and again he has repudiated the term, but explanation and denial do little to stem the current of misrepresentation. The root error made by those who accuse the Spencerian philosophy of being materialistic is due to failure to distinguish between a comprehensive generalisation of the Universe resting upon the data of science, and a philosophic interpretation of that generalisation. Now, there are two ways in which the Universe may be viewed, as natural and supernatural, mechanical, or rather dynamical, and spiritual. The supernatural or spiritual view has been condemned by history as sterile in the region of fact, and fantastic, not to say superstitious, in the region of interpretation. Progress in the acquiring of exact knowledge dates from the time when the mechanical view of the world was substituted for the spiritual. When Newton substituted his conception of gravitation for the angelic theory

of planetary movements, he introduced into the study of the world a mechanical element verifiable in terms of force. Did this constitute Newton a Materialist? When Darwin substituted for the spiritual theory of special creations the dynamical conception of a struggle between organisms for a definite amount of life-sustaining forces, was he necessarily a Materialist? Now, what Spencer has done is simply to fuse the separate generalisations of science into one all-embracing generalisation. His life-work has been to trace the evolutionary process from star to soul, always, observe, scientifically interpretable in terms of force. Every man of science must be a Materialist when dealing with tangible modes of existence and their verifiable laws. The charge of Materialism would be valid if Mr. Spencer contended that for the ultimate explanation of the Universe all that was needed was the mechanical forces with which men of science deal. Now, Mr. Spencer repudiates as earnestly as his detractors the view that force—which on the mechanical side is the final word of the scientific conception of the world—is the final word of the philosophic conception. To the philosophical scientist force is but a symbol: in his view atoms and energies have only a relative value. Indeed, so impressed is Mr. Spencer with the inadequacy of the Materialist theory that in his *First Principles* and his *Psychology*, he says that it is more rational

to conceive the ultimate principle of Existence in terms of Mind than Matter. But what the actual nature of the one reality is Mr. Spencer does not undertake to say. Once for all let it be understood that Spencerism stands on its own merits as the philosophy of the Knowable, and as the only organised body of thought which has its roots in experience and is a guide to the understanding of life, both theoretically and practically. Those who choose to identify Spencerism with Materialism are simply blinding themselves with a dust-cloud of their own raising.

It tends greatly to clear the ground for the comprehension of the Spencerian philosophy if we remember that it cuts itself off entirely from the old metaphysical attempts to solve the absolute mystery of existence. In his *First Principles* Spencer adopts and improves the Hamiltonian demonstration of the relativity of knowledge, holding that, from the constitution of the human mind, knowledge of noumena is impossible. From this it follows that Spencer restricts philosophy to the unification of Knowledge, the reduction of phenomena to one ultimate law. If the Universe is not a chaos the laws which underlie phenomena must be related, and when traced back must merge into one another as the branches of a tree merge in the trunk and the trunk in the root. Mr. Spencer's task was to find the root-principle of phenomenal

existence. Some one has said that to 'a thinker capable of comprehending it from a single point of view, the Universe would present but a single fact, but one all-comprehensive truth.' Everything depends upon the point of view. From the point of view of the supernaturalist the Universe need not necessarily seem a single fact, one all-comprehensive truth. The unifying principle may well be not in the Universe, but in the mind of the Creator. So far indeed from the Universe testifying to its own unity, or being the manifestation of one all-comprehensive truth, supernaturalists have always postulated the necessity of a revelation as interpreter of the Universe. Then again, if we take a mechanical view of the Universe, we do not readily arrive at the idea of unity. Between the various parts of a machine there may be no necessary, inevitable connection. For unity we must go to the mind of the constructor of the machine. So long as the purely mechanical conception of the Universe obtained sway over the minds of philosophers there was no getting beyond Positivism, with its theory that nothing can be known beyond co-existences and sequences. Mill's intellectual helplessness before the problem, his belief that there was no inherent necessity at the heart of things—instance his declaration that in other worlds two and two might make five,—had their origin in the unconscious hold which the old

mechanical conception of the Universe had upon his mind.

The demonstration of the essential and necessary unity of the Cosmos was only made possible when the dynamical was substituted for the mechanical point of view. The dynamical point of view involved the idea of growth, as against manufacture. When the Universe began to be viewed as a dynamic process rather than as a manufactured product, the way was opened for treating phenomena as something more than co-existences and sequences—as necessary links in a great cosmical chain. Manifestly we must get a clear grasp of the dynamic conception of the Universe before we can understand the law of its evolution. Meanwhile from a purely scientific standpoint all that is necessary is recognition of the fact that the two great generalisations known as the Nebular theory and the Conservation of Force have made the dynamic theory of Matter the necessary basis of a study of the Cosmos. The scientific philosopher who deals with phenomena with a view to their unification must necessarily start with Existence when it comes before him in concrete, material fashion. Now, in tracing the Universe, science can get no further back than the nebula, or world-stuff. According to the nebular theory the matter which composes the solar system once existed in a diffused state. The problem is to discover the laws by

which, from a diffused nebulous state, Matter has increased in concentration and complexity so as to result in the world we now see. Along with the Nebular theory goes the doctrine of the Conservation of Force, which, interpreted, means that the Matter of the Universe is a fixed quantity, and is capable of endless transformations. Viewed thus, the Universe is one fact, the result of one great cosmic process — namely, the Redistribution of Matter and Motion. When Spencer came upon the scene, he found the path of discovery cleared by the three great generalisations—the universal law of Gravitation, the Nebular theory, and the doctrine of the Conservation or Persistence of Force. These three isolated generalisations Spencer fused into one by his theory of Evolution. Newton formulated the law of Gravitation, Kant and Laplace used it to explain the origin of stellar and planetary systems, and Spencer, combining this with the doctrine of the Persistence of Force, was led to discover the law of the entire cosmical process from star to soul. As has been well said, 'the idea embraced in the word Evolution as employed by Spencer is by far the nearest approach ever yet made to the conception of an absolutely universal and cosmical law.'

The problem before Mr. Spencer was this: Given a Universe composed of a fixed quantity of Matter and Motion, conceived in harmony with the

Newtonian law of Gravitation as manifesting co-existent forces of attraction and repulsion, to trace the process by which the Cosmos evolved from its nebulous to its present state. Spencer's starting-point is the Persistence of Force, on the ground that, reduced to its ultimate analysis, our conception of Matter rests upon 'forces standing in certain correlations.' When we say that Force is persistent, we are simply declaring that the Force in the Universe is constant — is never increased or diminished. This belief rests upon something deeper than a scientific induction: it is a psychological necessity. If Force came into existence and went out of existence, the Universe would be, not a Cosmos, but a Chaos. If Force was liable to sudden creation and annihilation, reasoning would be impossible, because reasoning is simply the classification of the relations among Forces. Scientific induction as well as abstract reasoning could not exist unless the forces of Nature persisted—that is, continued to exist. The great universal fact of the Redistribution of Matter and Motion is no arbitrary fact, but follows naturally from the Persistence of Force. It needs little reflection to see that, if Force is persistent, the relations among forces must also persist: the one is a corollary of the other. In the one as in the other, scientific induction and psychological necessity are in entire harmony. When we say that the relations among forces per-

sist, we are simply postulating the law of Nature's uniformity, which is the essential basis of all scientific procedure. As Mill puts it, the uniformity of the laws of Nature is the major premise of all inductions. This belief has a deeper root than is indicated in the old Experiential and Positive philosophies. Hume, Mill, and Comte traced our conception of Nature's uniformity to Experience. Hume got no further than custom, and Mill never could reach anything better in the way of certainty. Comte's whole philosophy, resting as it does on the idea of recording co-existences and sequences, entirely ignored the element of necessity in our conception of Nature's uniformity. According to Spencer, the belief in the uniformity of Nature is something more than the outcome of experience: it is a necessity of thought, which unconsciously we bring with us to the interpreting of experience, and without which experience itself could not be understood so as to be made the foundation of scientific certainty. Moreover, the Spencerian conception of Force and its relations throws a flood of light upon the idea of Cause and its teleological implication. Reduced to its ultimate analysis, 'our belief in the necessity and universality of causation is the belief that every manifestation of force must be preceded and succeeded by some equivalent manifestation.' That is to say, between cause and effect a natural and necessary relation exists. How far-reaching is

the law of the persistence of relations among forces may be gathered from a remark made by Stallo in his suggestive book, *Concepts of Modern Physics*, where, without reference to Mr. Spencer at all, he says: 'The real existence of things is co-extensive with their qualitative and quantitative determinations. And both are in their nature relations, quality resulting from mutual action, and quantity being simply a ratio between terms neither of which is absolute. . . . It may be observed in this connection that not only the law of causality, the conservation of energy, and the indestructibility of matter so called, have their root in the relativity of all objective reality — being indeed simply different aspects of this relativity,—but that Newton's first and third laws of motion, as well as all laws of least action in mechanics (including Gauss's laws of movement under least constraint), are but corollaries from the same principle. And the fact that everything is, in its manifest existence, but a group of relations and reactions, at once accounts for Nature's inherent teleology.' From this point of view, the laws of Nature are not externally imposed upon Matter, but are necessarily evolved along with the evolution of phenomena — are, in fact, from the scientific standpoint, generalised descriptions of Nature's actions and reactions.

Another corollary that flows from the Persistence

of Force is the transformation and equivalence of forces. If the force in the Universe is a definite fixed quantity, it is evident that forces do not cease to exist when they elude the senses. Changed in form, force must reappear. This corollary from the Persistence of Force has had abundant illustration by science. Thanks to the labours of Meyer, Joule, Grove, and Helmholtz, science is now able to formulate, as a fundamental law of Nature, the transformation and equivalence of forces. Helmholtz has described the process with such lucidity that his words may fitly be quoted: 'If a certain quantity of mechanical work is lost, there is obtained, as experiments made with the object of determining the point show, an equivalent quantity of heat, or instead of this, of chemical force; and conversely, when heat is lost, we gain an equivalent quantity of chemical or mechanical force; and again, when chemical force disappears, an equivalent of heat or work; so that in all these interchanges between various inorganic natural forces, working force may indeed disappear in one form, but then it reappears in exactly equivalent quantity in some other form: it is thus neither increased nor diminished, but remains in exactly the same quantity.' The attempt to extend the law of the transformation and equivalence of forces to organic processes met with stubborn resistance. It was feared that the reduction of the organic processes,

with the mysteries of life and growth, to the play of mechanical forces would lead straight to Materialism; consequently for a time an entity called vital force was invoked in order to combat the coming danger. In his *First Principles*, Spencer in his usual lucid and convincing manner shows that through all Nature's processes, organic and super-organic as well as inorganic, the law of the transformation and equivalence of forces holds good.

Two other corollaries from the Persistence of Force refer to the direction of Motion and the rhythm of Motion. Motion, as Spencer shows by numerous and striking illustrations drawn from all parts of Nature, always follows the line of least resistance. Whether he is dealing with the movements of the planets, the forces which go to explain the condensation and evaporation of clouds, the nutritive and mechanical processes of organic nature, or the economic forces of society, Spencer is able to verify the great all-comprehensive truth that Motion follows the line of least resistance. It is the same with the truth that Motion is rhythmical. Mr. Spencer's treatment of this section is specially profound. It is difficult to know which to admire most—the clearness of his analysis of the complex phenomena with which he deals, or the brilliancy of his power of generalisation. So impressed have some of his contemporaries been

with the marvellous power exhibited in this section that one of them, a writer of great repute, has declared that Mr. Spencer's treatment of the rhythm of Motion 'offers one of the most brilliant examples of strict philosophic thinking which the world has yet produced.' Like the other corollaries, direction of Motion and the rhythm of Motion are shown to be necessary deductions from the Persistence of Force. In regard to the former Mr. Spencer says: 'When we seek a warrant for the assumption that of two conflicting forces that is the greater which produces motion in its own direction, we find no other than the consciousness that such part of the greater force as is unneutralised by the lesser must produce its effect—the consciousness that the residuary force cannot disappear, but must manifest itself in some equivalent change—the consciousness that force is persistent.' In regard to rhythm Mr. Spencer also shows that the inductive truth that all motion *is* rhythmical rests on the deductive fact that all motion *must* necessarily be rhythmical: 'The force embodied as a momentum in a given direction cannot be destroyed; and if it eventually disappears, it reappears in the reaction of the retarding body, which begins afresh to draw the now arrested mass back from its aphelion. . . . Thus, then, rhythm is a necessary characteristic of all motion. Given the co-existence everywhere of antagonistic forces—a postulate which, as we have

seen, is necessitated by the form of our experience —and rhythm is an inevitable corollary from the persistence of force.' Obviously, we have only got part of the way to the construction of a philosophy in showing that all phenomena rest upon one law—the Persistence of Force and its corollaries. This is only to show the unity of phenomena, but how are we to explain the difference? It is essential to trace the One in the Many; it is equally essential to trace the rise and progress of the Many. Mr. Spencer had now to show how the Universe as a cosmical product resulted from these laws—in other words, he had to formulate the process by which phenomena assume their varied forms in obedience to the law of the Persistence of Force. What was wanted was a formula which would cover the process manifested by phenomena in all their mutual actions and inter-actions, from the earliest nebulous existence to the highest products of civilisation. The law of that process discovered by Mr. Spencer he calls the law of Evolution. At the end of a long inquiry, worked out brilliantly by means of the inductive method, Mr. Spencer reaches the law of the great cosmic process. The redistribution of Matter and Motion which results in the formation of an aggregate, Mr. Spencer calls by the name of Evolution; the redistribution which results in the decay and dissipation of an aggregate he terms Dissolution. Evolution is defined as an integration

of Matter and concomitant dissipation of Motion, during which the Matter passes from an indefinite incoherent homogeneity to a definite coherent heterogeneity, and during which the retained Motion goes through a parallel transformation. This law holds true of all existences whatsoever. For convenience we divide phenomena into sections —astronomic, geologic, biologic, psychologic, sociologic; but the process of Evolution is one and its law is one. Evolution of the parts goes on along with evolution of the whole. Not only is Evolution one in principle, but one in fact.

We are still, however, in the region of induction. John Stuart Mill would remind us that no number of inductions can establish a necessary law. For anything induction can tell us, there may not be any necessary connection between facts. They may be found within our experience existing in a regular order, but as to the necessity of that order induction is silent. Unless, therefore, Mr. Spencer's attempt at a great cosmic philosophy was to prove abortive, it was essential that he should not only show how the cosmic process takes place, but also why it takes place in one form and could not possibly take place in another. In other words, he had to deduce the great world-transformations from the Persistence of Force. Induction and Deduction had, so to speak, to join hands before Knowledge was unified and Philosophy had reached its goal. Taking

his stand upon the great cosmical fact of which all other facts are merely phases—namely, the redistribution of Matter and Motion, as shown to follow necessarily from the transformation and equivalence of force, along the line of least resistance, and in rhythmical direction—Spencer had to show that the process which results in the formation of aggregates necessarily means a process of evolution from a state of indefinite incoherent homogeneity to a state of definite coherent heterogeneity. It is now a fact generally accepted by men of science that the planetary system at its origin was an immense nebulous mass at the stage of comparative homogeneity—a stage which, however, was necessarily being departed from by the attractive force of Matter. Motion towards local centres of gravity would set up heterogeneities in the masses, which, being subject to unlike forces, would be rapidly differentiated. In the course of the redistribution of Matter and Motion the homogeneous nebulous fluid, under the operation of strictly mechanical principles, was bound to become heterogeneous. The same process is traceable in the solar system, in the geologic and organic history of the earth, and in civilisation. Not only the Universe, but all things in it, have advanced from the homogeneous to the heterogeneous state. The instability of the homogeneous is greatly increased by another principle, which acts with all the force of mechanical

necessity — namely, the multiplication of effects: one cause produces many effects. To this is due the diversity which we find in Nature.

So far we have traced the passage of the homogeneous to the heterogeneous, from the simple to the complex, as being the result of sheer mechanical necessity, but no reason has been given why the heterogeneity should proceed in an orderly definite manner. If there were only instability of the homogeneous and multiplicity of effects, the Universe might well be a chaos. To what is the orderliness of Nature due? Still adhering to the principle of mechanical necessity, Mr. Spencer shows that like forces produce like results, unlike forces unlike results, and thus along with the passage of aggregates from the uniform to the multiform there also proceeds a change from indefiniteness to definiteness of parts. As has been well said: 'Segregation, or the clustering of the like and separation of the unlike parts under the action of forces capable of moving them, produces the definiteness and individuality of things.' Under the influence of mechanical law the process of the redistribution of Matter and Motion, being the result of antagonistic forces, must reach a point where the forces balance, producing upon us the feeling of harmony or equilibrium in Nature. In its completeness the law of Evolution is presented inductively and verified deductively from the law of the Persistence of Force, which moves along the

line of least resistance in a rhythmical direction, producing integration by loss of Motion and orderly differentiation, owing to the instability of the homogeneous, the multiplicity of effects, and segregation, resulting in a balance of forces, called equilibration. When the balance is overthrown by an increase of Motion, then disintegration begins, followed by incoherent indefinite heterogeneity, ending in Dissolution.

By tracing Nature's processes to their cosmical root Mr. Spencer has unified phenomena, and in the act has, of course, unified Knowledge. In his view the Universe is a complex unity which, when reduced to its ultimate analysis, is seen to be one fact—the Redistribution of Matter and Motion, all phenomena being complex aspects of that one fact. The object of Mr. Spencer's numerous works is to trace the law of evolution through the various branches of phenomena, organic, super-organic, psychologic, and sociologic, and by means of it to unify and interpret phenomena. Mr. Spencer makes no attempt to give an absolute explanation of the Universe. His aim has been to show in what manner the earth with all its life has been evolved, to trace the cosmical process, to unify phenomenal knowledge, not to dispel mystery or answer questions of the Absolute and Infinite. In his *First Principles* Mr. Spencer has applied his formula to the evolution of the earth from its nebulous to its

present stage; but to bring his scheme of philosophy within reasonable compass, he has merely outlined the inorganic evolution, reserving his strength for the development of life to which the *Principles of Biology* are devoted.

CHAPTER VI

THE EVOLUTION OF LIFE

WHATEVER be the ultimate philosophic value of Comte's famous law of the three stages, to the student of scientific thought it is of great utility. He learns the close connection that exists between metaphysical conceptions and scientific discoveries. If discovery has been slow, the reason is due perhaps more to a wrong method of metaphysical interpretation than to actual scientific exploration. Facts have lain around the man of science in abundance, but he has remained blind to their significance, simply because his mind was filled with conceptions which belong to the metaphysical stage of thought. At the metaphysical stage, the mind in its search for causes finds a resting-place in entities or abstractions. Instead of being content with a formula which describes all phases of phenomena—a kind of intellectual shorthand — the mind personifies the process, and converts the final result into an initial, dominating, all-controlling agent.

In all regions of phenomena the belief in entities

has retarded the progress of knowledge. Light, heat, electricity, magnetism—each in turn has been conceived not as the result of certain conditions, but as a mysterious principle controlling the conditions. A good example of this is associated with Stahl's doctrine of phlogiston, which he used to explain the theory of combustion. Stahl supposed that all combustible substances contained a common element, which he called the Fire Principle. The discovery of the doctrine of the Conservation and Transformation of Forces brought to an end, in the realm of physics and chemistry, the despotic sway of entities, of personified abstractions. But if they no longer govern, they reign in somewhat languid and ornamental fashion. No man of science takes entities into account when dealing with physical and chemical phenomena, but in common speech their influence may still be traced. In the popular mind Gravitation, for instance, is thought of as the cause of bodies tending to approach one another, instead of being simply the name of an observed fact. Chemical affinity, too, is thought of as the cause of the combination of gases, whereas, like Gravitation, it is the generalised description of a natural process.

In one realm, that of Biology, entities not only reign, but govern. So despotically do metaphysical abstractions rule in Biology that they have been the most formidable opponent to the application of

the Evolution theory to life and its multiform manifestations. Just as formerly men of science spoke of a Heat Principle and a Fire Principle, so now they speak of a Vital Principle. It may be surmised that as metaphysical conceptions have been driven out of the purely mechanical and chemical spheres, they must ultimately be banished from the higher and more complex world of organic life. The surmise is transformed into a confident expectation when it is discovered that the metaphysical view of phenomena is the result of a natural infirmity of thought, which can only be cured by a rigorous application of scientific and philosophic analysis. That infirmity of thought is well expressed by James Hinton when he remarks upon the fact 'that the processes of Nature are studied by us in an inverse order: we see effects before we see causes.' He illustrates this as follows: 'Let us conceive that, instead of having invented steam-engines, men had met with them in nature as objects for their investigation. What would have been the most obvious character of these bodies? Clearly their power of acting — of moving. This would have become familiar as a "Property" or endowment of steam-engines long before the part played by the steam had been recognised; for that would have required careful investigation and a knowledge of some recondite laws, mechanical, chemical, pneumatic. Might it not then have

happened that motion might have been taken as a peculiar characteristic belonging to the nature of the engine? and when after a long time the expansion of the steam coincident with this motion was detected, might it not have been at first regarded as consequence and not as cause?' Under these circumstances it would seem the most natural thing in the world to trace the complex activity of the steam-engine to a Locomotive Principle.

How inadequate as an explanation of biological phenomena is the principle of Vital Force is admirably shown by Mr. Spencer in his remarkable chapter, 'The Dynamic Element in Life,' in the new edition of his *Principles of Biology*. Those who write down Mr. Spencer as a Materialist will find him in that chapter quite at one with the Idealist in admitting the mystery of Life, and the impossibility of conceiving it to stand in the relation of effect to purely mechanical causes. It is a mistake, however, to suppose that there is something specially inscrutable about life. The inscrutability is the same in kind as that which belongs to Existence as a whole. The fall of a stone is quite as inexplicable as the activity of an organism. It is just as impossible to conceive how a stone falls as how an organism moves. As Mr. Spencer observes, neither Newton nor any one else has been able to conceive how the molecules of matter in the stone are affected not only by the molecules of matter in

the adjacent part of the Earth, but by those forming parts of its mass eight thousand miles off, which severally exercise their influence without impediment from intervening molecules; and still less can we conceive how every molecule of matter in the sun ninety-two millions of miles off has a share in controlling the movements of the Earth. Still less can we conceive the physical process by which electric impulses are transmitted from one place to another. The ultimate reason of any phenomenon is unknown; the fact we know, and the law of the fact we can discover. For the evolutionist the one practical question in biology is not, Can the mystery of life be explained? but, Can the processes of life be traced, and the complex phenomena reduced to something like unity? In other words, Will the Spencerian formula of Evolution, as a movement from the simplex to the complex through successive integrations and differentiations, cover not only the purely mechanical side of Nature, but also those processes known as living?

Anti-evolutionists deny the application of Mr. Spencer's formula to biology on the ground that between non-living and living matter there is a great gulf, which cannot be bridged by a theory that postulates the unity and continuity of all Nature's processes. In their view living matter is so unique that by no conceivable process could it be evolved from non-living matter: a special creative

act is necessary, which at once invalidates the methods and results of the evolutionist. The assumption here is that there are two kinds of matter, living and dead. This assumption takes its rise in the old conception of matter as something dead, inert, which can only be energised in two ways, either by a specific creative fiat, or by the infusion of a mysterious vital principle. This crude idea of matter no longer holds sway over the minds of modern philosophers and scientific students. Science and philosophy, long divided by such watch-words as Materialism and Idealism, are now beginning to unite in recognition of the fact that Matter is not dead, inert, but alive and everywhere palpitating with energies, and that organic life is no special creation, but simply a highly specialised and complex form of the universal life of Nature. So far from Mr. Spencer being a Materialist, he might more correctly be described as an Idealist. So far from thinking that life is a product of Matter, he has clearly indicated that in his view Matter itself is a form of life. In his own words: 'Under one of its aspects, scientific progress is a gradual transfiguration of Nature. Where ordinary perception saw perfect simplicity it reveals great complexity; where there seems absolute inertness it discloses intense activity; and in what appears mere vacancy it finds a marvellous play of forces. Each generation of physicists discovers in so-called "brute-

matter" powers which but a few years before the most instructed physicists would have thought incredible. When the explorer of nature sees that, quiescent as they appear, surrounding solid bodies are thus sensitive to forces which are infinitesimal in their amounts—when the spectroscope proves to him that molecules on the earth pulsate in harmony with molecules in the stars—when there is forced on him the inference that every point in space thrills with an infinity of vibrations passing through it in all directions; the conception to which he tends is much less that of a universe of dead matter than that of a universe everywhere alive; alive, if not in the restricted sense, still in the general sense.' At the end of all scientific and philosophic inquiries we come, according to Mr. Spencer, to an infinite and omnipresent Energy from which all things proceed. Manifestly this new conception of Life renders unreal the old dispute about non-living and living matter. Living matter we no longer think of as something entirely different in kind from non-living matter. We now think of the difference as one of degree. Matter is alive, not because there has been added to it a special property. What we call living matter only seems to us to be specially alive because its movements are of a highly complex nature, and because it is organised on what seems to us to be a principle of inherent self-activity. If the distinction we make

between living and non-living matter be really an artificial distinction, the result of a natural infirmity of thought, clearly the philosopher who would trace the process of life must begin his work with the earliest manifestations of living matter.

Naturally Mr. Spencer begins his *Principles of Biology* by a consideration of the constitution of organic matter. It is no part of the biologist's duty to discuss the speculative question of the origin of life. The mathematician does not concern himself with what Quantity, Space, and Time are; nor the physicist with what Force is. In like manner the biologist has to deal with the manifestations of life, not with origins. As a philosophic biologist, Mr. Spencer has accomplished his task when he shows that the phenomena of life conform to the process of evolution which he has traced in the inorganic sphere. At the outset an apparently formidable obstacle meets us in the attempt to interpret organic evolution by means of the Spencerian formula. In its simplest form evolution may be described as an integration of matter and concomitant dissipation of motion. But when we come to study organic matter, we discover the two processes no longer working in antagonism, but in unison. Unless motion can be conserved instead of being entirely dissipated, there cannot be secured those secondary phases of evolution known as functional activities. The

problem is to secure at one and the same time structural fixity with functional mobility. How is motion to be retained in an organism without producing the natural consequence of disintegration? In the case of organic bodies these apparently contradictory conditions are reconciled. In organic bodies matter is combined in a form which embodies an enormous amount of motion along with a great degree of concentration. Both in his *First Principles* and *Principles of Biology* Mr. Spencer subjects matter in its earliest or protoplasmic state to a rigorous analysis, the result of which is to show that the essential characteristic of living matter is the union of great molecular activity along with a degree of cohesion that permits of temporary fixity of arrangement. The phenomena of life, so far as the man of science is concerned, are inseparably associated, not with unique properties, but with modes of motion. Science has amply justified Mr. Spencer's reasonings. Thus we find Sir Michael Foster from the practical point of view unconsciously endorsing the Spencerian line of thought, as follows: 'The more these molecular problems of physiology are studied, the stronger becomes the conviction that the consideration of what we call structure and composition must, in harmony with the modern teachings of physics, be approached under the dominant conception of modes of motion. The

physicists have been led to consider the qualities of things as expressions of internal movements; even more imperative does it seem to us that the biologist should regard the qualities of protoplasm (including structure and composition) as in like manner the expressions of internal movements. He may speak of protoplasm as a complex substance, but he must strive to realise that what he means by that is a complex whirl, an intricate dance, of which what he calls chemical composition, histological structure, and gross configuration are, so to speak, the figures; to him the renewal of protoplasm is but the continuance of the dance, its functions and actions the transference of the figures. . . It seems to us necessary, for a satisfactory study of the problems, to keep clearly before the mind the conception that the phenomena in question are the result, not of properties of kinds of matter, but of kinds of motion.' Organic evolution begins with homogeneous living matter with protoplasm in its most elementary form. Owing to its molecular instability matter changes in the direction of the heterogeneous, becomes differentiated. In other words, there results multiplication of organs, with their respective functions.

From the amœba, whose entire body may be said to consist of a single organ, its stomach, to the human being, the differentia is immense. Yet the process is not abrupt, but transitional:

each stage is a link in the great evolutionary chain. Hand in hand go integration, differentiation, and segregation. Different parts of an organism become co-ordinated, the result being a moving equilibrated system, a coherent individuality. Manifestly if life is conceived as a mode of motion, as the resultant of complex molecular activities, it cannot be understood except in relation to its environment, the medium of these activities. So long as a Vital Principle was postulated, the inner activities of an organism received an undue importance, almost to the exclusion of the environing agencies. Mr. Spencer showed that life was no entity, but a relation. Vital phenomena are the product, not of an inherent principle of life, but of the organism and its medium, the inner forces in vital correlation with the outer forces. According to his celebrated definition, Life is the continuous adjustment of internal to external relations. In his *First Principles* and *Principles of Biology* Mr. Spencer has shown that the evolution of organic life, from the humblest protoplasmic forms in which it is found to the highest types with all their structural and functional complexities, is from the homogeneous to the heterogeneous, by means of successive integrations and differentiations.

It should not be forgotten that the evolution of organic life is simply a specialised form of cosmical evolution, consequently a close corre-

spondence exists between organisms and their environment. Given an environment gradually increasing in heterogeneity, and it follows that in order to survive and propagate themselves organisms must, in adapting themselves, also increase in heterogeneity. Parts of the organisms restrict themselves to certain processes, and thus by specialisation a sort of division of labour takes place, the result of which is to create structural and functional complexities. This process, called direct equilibration, would be powerless without indirect equilibration, better known as Darwin's law of 'Natural Selection'—a law which should not be confounded with the law of Evolution, it being at most a brilliant confirmation of Mr. Spencer's cosmical generalisation. By means of the struggle for existence everywhere going on among organisms, there is secured the killing-out of the unfit, and the survival and perpetuation of those organisms characterised by successful variations, which by the law of heredity become structural and functional. Palæontology confirms this by showing that each geological epoch had its own class of organisms in correspondence with the environment, thus proving that organic has gone hand in hand with inorganic evolution. Embryology adds further confirmation, by showing that the human organism in its evolution from the germ cell summarises the ancestral development in being progress from an indefinite

incoherent protoplasmic homogeneity to the definite coherent heterogeneity of the fully developed body through successive integrations and differentiations —all of which, as Mr. Spencer indicates, are necessitated by the law of the Persistence of Force, and its corollaries.

Without transgressing at undue length upon the work of specialists, and making this summary of Mr. Spencer's views severely technical, it would be impossible to do justice to the elaborate and painstaking manner in which the theory of Evolution is applied to the construction of what has been aptly called a working thought-model of organisms and species, in their development, racial history, and everyday activities. Mr. Spencer has done more than reconstruct Biology on new lines; he has linked the science to human affairs by his bold and luminous generalisation on the multiplication of the human race—a generalisation which, on account of its bearing on the famous theory of Malthus, is of perhaps greater interest to the sociologist than to the biologist. Those who are acquainted with the social aspirations of the French Revolution thinkers do not need to be told of the enthusiastic hopes which were entertained of the human race from the Age of Reason, which it was believed had dawned upon humanity. According to the Encyclopædists, with the destruction of the great enemies of progress, Priestcraft and Kingcraft, the reign of equality and

brotherhood would be inaugurated. The speculations of Condorcet summed up the creed and the hopes of the eighteenth century reformers. Like the spectre at the banquet, Malthus appeared with his gloomy prophecies of the future. By his theory of population Malthus seemed to prove that human ills were untouched by political and social revolution—were inherent in the nature of things. With great parade of statistics and imposing display of logic, the English parson contended that he had discovered a law against which the philosophic optimists would battle in vain, the law that human population increases at a quicker rate than human subsistence. Poverty and misery as a consequence inevitably followed at the heels of civilisation. According to Malthus there was no cover set for the poor man at Nature's table. Godwin and his fellow-optimists strove hard to weaken the force of this pessimistic theory; but coinciding as they did with the misery of the Revolution wars, the speculations of Malthus appeared to have an immovable root in actual experience.

To Mr. Spencer was reserved the honour of formulating a biological theory which, while doing justice to the elements of truth in Malthusianism, pointed the way to a solution which removed the dark shadow of pessimism from civilisation. As the result of profound study of the phenomena of multiplication, Mr. Spencer discovered that Indi-

viduation and Genesis are in necessary antagonism: advance of the one necessitates decrease of the other. The error of Malthus lay in the assumption that Genesis was an absolute instead of a relative factor of organic life. According to Mr. Spencer, Genesis varies with Individuation. The higher and more complex the organism, the lower the rate of increase. In an advancing state of civilisation where nerve and brain development are the dominating factors, the rate of population necessarily declines. Mr. Spencer presents his theory in condensed form as follows: 'The necessary antagonism of Individuation and Genesis, not only fulfils the *a priori* law of maintenance of race, from the monad up to Man, but ensures final attainment of the highest form of this maintenance—a form in which the amount of life shall be the greatest possible and the births and deaths the fewest possible. From the beginning pressure of population has been the proximate cause of progress. It produced the original diffusion of the race. It compelled men to abandon predatory habits and take to agriculture. It led to the clearing of the earth's surface. It forced men into the social state; made social organisation inevitable; and has developed the social sentiments. It has stimulated to progressive improvements in production, and to increased skill and intelligence. It is daily thrusting us into closer contact and more mutually-dependent

relationships. And after having caused, as it ultimately must, the due peopling of the globe, and the raising of its habitable parts into the highest state of culture—after having perfected all processes for the satisfaction of human wants—after having, at the same time, developed the intellect into competence for its work, and the feelings into fitness for social life—after having done all this, the pressure of population must gradually approach to an end.' And thus we find Mr. Spencer in Sociology acting the part of reconciler between the Optimists and the Pessimists, just as in Psychology he put an end to the feud between the Intuitionalists and the Experientialists.

The *Principles of Biology* created a new era in the study of Nature. When it appeared, master minds were under the spell of metaphysical conceptions of life, and the real facts of organic development were obscured, on the one hand by the erroneous notion about the origin of life-forms, and on the other by the forbidding nomenclature of dry-as-dust specialists—men whose vision was so narrowed by pedantic devotion to details that they could not see the wood for trees. By his piercing vision into the heart of Nature's process, and his marvellous co-ordinating faculty, Mr. Spencer brought order out of confusion, and by the touch of his philosophic magic wand revealed a new world of surpassing interest and beauty. Biological science

has made great strides since his work appeared, but the strides have been mainly along the lines which were indicated half a century ago by the unique genius of the author of the *Principles of Biology*.

That the progress of biological knowledge has been mainly on the lines laid down by Mr. Spencer is evident from the revised edition of the *Principles of Biology* published in 1898 and 1899. Since the publication of the work in 1864 men of science have accumulated facts in great abundance, but these, instead of conflicting with the conceptions of Mr. Spencer, harmonise with his philosophic ground-plan. Since 1864 biologists have busied themselves largely with the astonishing phenomena of 'Metabolism,' cell-life, and the questions of heredity as raised by Professor Weismann. In the new edition these problems are attacked with an acumen and vigour which abundantly show that at the age of fourscore Mr. Spencer's intellectual vision has not become dim, nor his intellectual force abated. Notwithstanding this, there is a tendency in some quarters to question Mr. Spencer's method of dealing with the intricate and minute facts of organic life on philosophic principles—a method apt to be superficially confounded with the *a priori* speculations of the old Nature philosophers. Distinguished men of science, however, bear ungrudging testimony to the great practical value of Mr. Spencer's biological philosophy. In a letter dated

1898, a portion of which I should like to quote were I permitted, an author of several biological works of importance refers to the influence which the *Principles of Biology* exercised on him. In a review of the revised edition Professor Morgan remarks: 'What strikes one most forcibly on reading the *Principles of Biology* in this new and enlarged edition is the extraordinary range and grasp of its author, the piercing keenness of his eye for essentials, his fertility in invention, and the bold sweep of his logical method. In these days of increasingly straitened specialism it is well that we should feel the influence of a thinker whose powers of generalisation have seldom been equalled, and perhaps never surpassed.' In the same strain men of the stamp of Sir Joseph Hooker and Professor Ray Lankester have borne testimony to the great and enduring work which Mr. Spencer has done in the biological field. On the Continent Mr. Spencer's labours have met with hearty and generous appreciation. In the January number of the *Revue Scientifique* for 1899 appeared the following: 'The work of 1864 itself has unquestionably had a profound influence upon these improvements [in the domain of biology since 1864] in suggesting new inquiries and aims. Biologists cannot do without consulting the revised work—new on many points—of the English philosopher; and doing so, they will find in it many precious ideas and suggestions from which their

experimental work will benefit largely. And like us they will be full of admiration for this work, so all-compact and admirably arranged, so crammed with facts and ideas, of the philosopher who has exercised such a profound influence upon the science of his time.' Professor Yves Delage, Professor of Zoology and Comparative Anatomy at the Sorbonne, in the preface to his work, *The Structure of the Protoplasma and Theories on Heredity*, etc., says: 'What I have called positive experiment is often as difficult to conceive as to accomplish, and if a philosopher counsels it and a naturalist corroborates it as well, it may so happen that the former has not the least part in the success. The example of H. Spencer is proof of it. With him the philosopher is coupled with the naturalist, but, so to speak, with a non-practising naturalist. I do not know if he dissected animals or practised the ingenuities of technical histology. Who would dare deny, however, that he has rendered important services to Biology? He possesses deep knowledge of biological questions, and arguments drawn from anatomy, histology, or embryogeny do not in any way embarrass him.'

In the same connection my friend Professor Arthur Thomson of Aberdeen, the distinguished Scottish biologist, has favoured me with the following:—'Mr. Spencer has a genius for seizing essentials and leaving out distracting details, for

disposing facts in big groups, for disclosing what one might call rational relationships—and, in this respect, quite apart from the Evolution theory, his *Principles of Biology* was an epoch-making work. I mean that even as a balance-sheet of the facts of life, the book is a biological classic; consciously or unconsciously we are all standing on his shoulders. Indeed, many of us have had the experience of rediscovering clear ways of relating facts which we presently find much better done in a brief paragraph in the *Principles*. But then the great work was much more than a careful balance-sheet of the facts of life—not that this was little, it was the introduction of order, clearness, breadth of view, and gave biology a new start,—it also displayed the facts of life and the inductions from these for the first time clearly *in the light of evolution*. I mean that if the evolution idea is an adequate modal formula, then we need to think of growth, development, differentiation, integration, reproduction, heredity, death—all the big facts—in the light of this. This was not Darwin's line; he was a great evolutionist, but surely not philosophic. Spencer's problems are not less real because more general, though many who talk of "organism," "growth," "differentiation," etc., glibly, and without ever feeling the problems behind every word, would probably not admit this. I cannot say that I have any great sympathy with those who call Spencer an abstract biologist, a philosophical biologist,

etc., and mean thereby to suggest that he is not in touch with, and is not treating of the real facts of life. I should rather think that he got nearer the realities than any one else. But I suppose the false antithesis between philosophy and science will have a lingering death, since even Spencer's work has not killed it.'

When regard is had to the profound influence and epoch-making nature of the *Principles of Biology*, Mr. Spencer may be allowed, with pardonable pride, to express in the preface of his new edition a feeling of gladness at surviving long enough to present his work in a finished and modernised form.

CHAPTER VII

THE EVOLUTION OF MIND

In dealing with biological phenomena it was pointed out that one great source of error was the fact that the processes of Nature are necessarily studied in an inverse order. We see effects before we discover causes. Ignorant of the slow complex processes of Nature, the mind naturally seeks for causes sufficiently striking and dramatic to account for imposing effects. As already remarked, had we been ignorant of the mode of construction of a steam-engine, we should naturally have attributed its power of motion to a 'property,' or in other words to a Locomotive Principle. In the absence of scientific knowledge man naturally falls back upon entities as causes of phenomena. We have seen the part which entities have played in Biology. Even yet many scientific men, in dread of Materialism, cling to the Vital Principle as the chief and dominating cause of life and its multiform manifestations. When we come to the study of mind, we are not surprised to find that here, even more

than in life in general, entities have played an important part. The marvels of consciousness, the mysteries of brain and mind, are so overpowering, that the first impulse of the student is to look for the cause altogether outside of ordinary cosmic forces. Primitive man could find no cause adequate to the effect short of supernatural power. In his view, God formed man of the dust of the earth, and breathed into him a living soul. As the theological conception faded away, its place was taken by the metaphysical conception. Instead of a supernatural agent acting outside of the Cosmos, the metaphysicians postulated an agent within the organism. Just as a Vital Principle was invoked to explain life in general, so an Intelligent Principle was invoked to explain the conscious life of man in particular. Philosophers pictured the mind as being somewhat like a political State where intellect and conscience ruled by a kind of divine right. Their authority was liable to be overturned. Evil, in fact, was the result of mental and moral anarchy. The lower passions were in revolt against the higher. Thus we have Butler plaintively remarking that if Conscience had power as it had right, it would rule the world. The process of thought was personified until the intellect became, not a generalised term, but an active agent. As Samuel Bailey says: 'The faculties have been represented acting like independent agents, giving birth to ideas,

passing them on to each other mutually, and transacting their business among themselves. In this kind of phraseology the mind often appears like a sort of field in which perception, reason, memory, imagination, will, conscience, the passions, produce their operations like so many powers, either allied or hostile.'

Mr. Spencer revolutionised Psychology by abolishing the absolute distinctions which metaphysicians had drawn between mind and the outer world, between subject and object. He dethroned entities and abstractions by the simple process of representing mind and matter, not as two antithetical substances, but as two phases of one cosmical process. Mr. Spencer has made it impossible to speak of the mental life of man as being under the control of a Principle of Intelligence, or mysterious Entity, which creates and directs thought. In the Spencerian philosophy Psychology stands in close and necessary relation to Biology. In both departments two all-mastering conceptions hold sway—the continuity of phenomena, and the intimate relations between the organism and its environment. If there is no absolute distinction between non-living and living matter, it follows that between the earliest and the latest manifestation of psychical life there can be no absolute demarcation. Between the humblest expressions of life in the animal world and the highest manifestations in the intellect of man, the difference is not one of kind

but of degree. The Spencerian Psychology is based, not on the pre-evolution view that mind is an entity with supernaturally endowed capacities, capable of being studied apart from its material mechanism, but on the idea that the mental faculties are evolved by slow and imperceptible gradations, along with a slowly evolving mechanism, in response to movements in the environment. And thus we are brought back to Mr. Spencer's definition of life as the continuous adjustment of internal to external relations. The organism, however humble, can only continue in existence by maintaining a correspondence with its environment. Where the environment is simple, the organism is simple. 'A plant's vital processes display adjustment solely to the continuous co-existences of certain forces surrounding its roots, and vary only with the variations produced in these elements and forces by the sun. The life of a worm is made up of actions referring to little else than the tangible properties of adjacent things.'

Progress towards higher life implies ability in the organism to respond to more special and more complex movements in the environment. Among the humbler organisms the correspondences in the environment are so few that the same structures are capable of performing diverse functions; but a study of Biology shows that division of labour takes place, so that in presence of a complex environment organisms, in order to live, must develop complex

structures. Biologically speaking, the degree of life varies with the degree of correspondence. At a certain stage in the evolution of life, the environment becomes so complex that the correspondence cannot be maintained automatically by the organism, however greatly differentiated in structure and function. There comes a limit, for instance, to the capacity of sight and hearing to discriminate, as it were, automatically among the external changes. At this limit life purely physical shades into life psychical. In the higher animals the ability to respond to complex external relations is associated with a specialised form of matter called nerve matter, which in its highest development is associated with Consciousness. The science of Psychology, then, in the strict sense of the term, begins with the dawning of Consciousness. Or, as it must be otherwise expressed, Psychology is that department of science which deals with the evolution of Consciousness by means of which, and under the direction of which, the mind maintains its correspondence with an environment no longer purely material, but including history, society, and all the influences which flow from the atmosphere of conscious life and thought—in a word, civilisation. It is impossible in brief space to indicate in detail the masterly manner in which Mr. Spencer shows the close and intricate correspondence between life and its environment, and the

unrivalled skill with which he traces the dual process of evolution of mind and its environment, developing from the simple to the complex by successive integrations and differentiations.

The problem of Psychology, on the subjective side, is to discover and determine the evolutionary process of Consciousness—in other words, the law of intelligence. If life in general is definable as correspondence between internal and external relations, obviously mental life in particular, or intelligence, must be included in the definition. It is idle to inquire into the ultimate nature of Consciousness or Intelligence. We know no more about the starting-point of Consciousness than we do about the starting-point of Matter. In both cases we begin with the homogeneity which we find in Nature, and with that as the basis we try to discover the cause of all the complex developments. In its ultimate analysis Mr. Spencer finds Intelligence to rest upon the recognition of likeness and unlikeness between primary states of feelings. Grant to the mind the power of recognising and distinguishing feelings, and it is plain that the entire mental life of humanity, from that of a savage to, say, a Newton, is the result of continuous differentiation and integration of states of consciousness. What is the law of intelligence? The law is no other than the association of ideas. 'When any two psychical states occur

in immediate succession, an effect is produced, such as that if the first subsequently recurs, there is a certain tendency for the second to follow it.' Upon this law all education is based, and upon it rests the cogency of the sayings, 'Practice makes perfect,' and 'Habit is second nature.' What, then, are the evolutionary stages in the growth of intelligence? The first stage is reflex action, in which a single impression produces a single sensation. Reflex action scarcely comes within the domain of Psychology, as, being automatic, it is performed without consciousness. Its significance consists in the fact that it is the connecting-link between biological and psychological phenomena. Instinct is a highly developed form of reflex action. With instinct we have a combination of movements following a combination of impressions, but in the course of development the environment becomes so complex that even highly developed instinctive actions are not able to maintain their automatic responses to the environment. The co-ordination becomes irregular. So long as the actions between the organism and the environment are automatic, memory cannot exist. Memory emerges when the correspondence is not complete. When the adaptation is re-formed, when the adaptation is again complete, memory lapses into instinct, as may be seen in the fact that a musician, who at first strains his faculties to remember the notes of a new piece,

by and by plays the tune automatically, even so far as to carry on a conversation at the same time. That is to say, he plays instinctively, without memory being called into exercise.

What of Reason? Is it a supernatural endowment, or an evolutional product? According to Spencer, Reason cannot be absolutely demarcated from Instinct. The difference between them is one of degree, not of kind. So long as the adjustments between internal and external relations are simple and permanent, they are made instinctively. Instinct may be defined as unconscious adjustments. When the adjustments are many, complex, and temporary, deliberation comes into play. Reason may be defined as conscious adjustments. The process of evolution is thus luminously sketched by Mr. Spencer: 'While on the one hand instinctive actions pass into rational actions when from increasing complexity and infrequency they become imperfectly automatic, on the other hand rational actions pass by constant repetition into automatic or instinctive actions. Similarly we may here see that, while on the one hand rational inferences arise when the groups of attributes and relations cognised become such that the impressions of them cannot be simultaneously co-ordinated, on the other hand rational inferences pass by constant recurrence into automatic inferences or organic intuitions. . . . The genesis of instinct, the development of memory

and reason out of it, and the consolidation of rational actions and inferences into instinctive ones, are alike explicable on the single principle that the cohesion between psychical states is proportionate to the frequency with which the relation between the answering external phenomena has been repeated in experience.' At this stage emerges Mr. Spencer's great philosophical contribution, whereby he revolutionised the science of Psychology by bringing to an end the historic feud between the Intuitionalists and the Experientialists.

In order to appreciate the full force of the Spencerian theory of reconciliation, it is necessary to present an historical sketch of the famous philosophic feud, beginning with John Locke. Locke's whole system of metaphysics rests on the idea that the mind or soul exists as an agent independent of the external world. The problem he set himself to solve was the exact relation between the mind and the world. Dissatisfied with the theory of innate ideas, Locke took up the position that all knowledge comes through the senses, consequently ideas are the counterparts of sensations. The question which immediately faced Locke was this—What is that thing called Matter which is the basis of all our knowledge? He saw that all the properties of Matter could not exist exactly as they seemed to exist, because many of them were conditioned by the mind itself. Light and heat, he saw, did not

exist as properties apart from the mind—they existed only in relation to the mind. But if matter is clothed by the mind with secondary qualities, what guarantee is there that the primary qualities are not also in some ways conditioned by the mind? The result of Locke's inquiry was to leave the mind just where Descartes left it—in the position of a self-acting entity. He dethroned innate ideas, but he put nothing in their place. With Descartes the mind was a constitutional monarch, conditioned in all its workings by innate ideas. With Locke the mind was still a monarch, but one whose system of government had fallen into anarchy. Berkeley detected the fatal consequences of Locke's philosophy. In order to dispel anarchy he got rid of Locke's dilemma about the primary and secondary qualities of matter by abolishing matter altogether. According to Berkeley, Spirit, not Matter, was the real substance of the Universe. At this stage Hume appears, and in effect says to Berkeley: If there is no evidence of the existence of matter as a permanent substance, there is a like want of evidence for the existence of mind as a permanent substance. What, says Hume, we are conscious of is not an entity called mind, but a chain of feelings linked together by association. In the hands of Hume the reasonings of Locke and Berkeley ended in scepticism. Locke's theory, like Berkeley's, was formulated in the interests of Theology. Locke

hoped to find in Causation a stepping-stone to a great First Cause; Hume, by substituting Association for Causation, knocked the props from Theology. By resolving mind as an entity into a series of feelings linked by association, Hume also knocked the props from Psychology. Hume drove Theology and Philosophy into bankruptcy—that is what constitutes him an epoch-making force in the history of thought.

Hume's destructive criticism roused into philosophic activity Immanuel Kant, whose contribution to the problem took the shape of innate forms of thought, instead of the innate ideas of Descartes. Great as are the differences among the Germans, they all, from Kant to Hegel, endeavour to break the force of Hume's criticism by re-establishing in a more plausible and subtler form the conception of a self-acting Ego, a spiritual agent endowed with potencies and capabilities, with forms of thought apart from experience. An attempt has been made in England to modernise Kant and Hegel, but it cannot be said that the attempt, headed by the late Professor Green, has been a success. Neo-Kantianism, instead of the old forms of thought, postulates a single active self-conscious principle, a transcendental unifying principle, 'the one subject which sustains the world and is the real knower in all finite intelligences.' Professor Seth Pringle Pattison effectively disposes of this latest attempt to construct an

Idealistic theory when he says it is of a piece with the Scholastic Realism which hypostatised *humanitas* or *homo* as a universal substance, of which individual men were in a manner the accidents. Similarly here the notion in general—the pure Ego—which is reached by abstraction from the individual, is erected into a self-existent reality, 'an eternally complete self-consciousness, of which the individual is an imperfect representation or mode.' Hume's destructive theory was far-reaching. If the mind was no entity, but a process, clearly a blow was struck at innate ideas and intuitive forms of thought. Naturally Hume's conception of mind commended itself to the Experiential philosophers, like the two Mills, in their crusade against the intuitional theory of morals. With John Stuart Mill, mind resolves itself, as with Hume, into a permanent possibility of feeling. Mill's philosophy was transitional. Effective enough in its polemic against the reigning Intuitionalism, Empiricism, even in the hands of an acute thinker like Mill, was incapable of returning satisfactory answers to the fundamental problems of Psychology. In regard to the root question, that relating to the constitution and function of the mind, Mill remained virtually at the position of Locke. When the Darwinian theory of man's origin began to gain general acceptance, it was evident that Psychology would be profoundly influenced. If no break was discoverable in the evolution of animal

forms, the difficulty was increased of making the human mind an isolated entity with a specially created constitution, in which were embedded *a priori* forms of thought. Equally difficult was it to conceive the mind as possessing nothing but a susceptibility to impressions. Thinkers began to ask whether the Darwinian theory did not involve the view that mind also was gradually evolved from a lower form of life. Pursuing this line of thought, even before Darwin popularised it, Spencer reached the far-reaching conclusion that what had hitherto been accepted as necessary truths by the Intuitionalists, and which the school of Mill never could resolve into individual experiences, were beliefs which, though *a priori* to the individual, were *a posteriori* to the race.

Here, indeed, was a luminous conception—a conception by the aid of which Empiricism was able to make most serious inroads upon the Kantian answer to Locke and Hume. As Mr. Fiske puts it: 'Locke was wrong in calling the infant's mind a blank sheet upon which experience is to write knowledge. The mind of the infant cannot be compared to a blank sheet, but rather to a sheet already written over here and there with invisible ink, which tends to show itself as the chemistry of experience supplies the requisite conditions. Or, dropping metaphor, the infant's mind is co-related with the functions of a complex mass of nerve-tissue,

which already has certain definite nutritive tendencies. The school of Leibnitz and Kant was wrong in assuming a kind of intuitional knowledge, not ultimately due to experience. For the ideas formerly called innate or intuitional are the results of nutritive tendencies in the cerebral tissue, which have been strengthened by the uniform experience of countless generations until they have become as resistless as the tendency of the dorsal line of the embryo to develop into a vertebral column. The strength of Locke's position lay in the assertion that all knowledge is ultimately derived from experience —that is, from the intercourse between the organism and the environment. The strength of Kant's position lay in the recognition of the fact that the brain has definite tendencies, even at birth. The doctrine of Evolution harmonises these two seemingly opposite views, by showing us that in learning we are merely acquiring latent capacities, by more or less powerful nutritive tendencies, which are transmissible from parent to child.'

What Kant described as *a priori* principles Spencer declared to be racial experiences which, by their constancy and universality, have become organic forms of thought operating with all the force of intuitions. Manifestly, Spencer's matchless contribution to Psychology was rendered possible by his destruction of the old conception of mind as a self-centred entity with supernatural endowments

or metaphysical properties, and the substitution of the conception of mind as co-related with matter—mirroring its movements, and subject to the law of reciprocity. Mind, in the Spencerian view, is no entity, but a specialised form of a universal process, and evolving in correspondence with its environment. Up till Spencer began to write, mind had been almost exclusively studied by the introspective method. It was treated as an abstraction, and even followers of Hume, like Mill, who had given up the old idea of a separate mental substance, never realised the importance of associating Psychology with Biology, and studying mental processes in their earlier pre-human manifestations.

Mr. Spencer's two volumes on Psychology are not only an epoch-making work in the region of metaphysics, but they have also proved the forerunner of a new method in the study of brain and nerve dissolution as well as of evolution. So long as the mind was treated as an entity, so long was Psychology barren in the region of practical life. When, however, the conception of mind as co-related in structure and function to a material organ and a nervous system became clear to Mr. Spencer, it was plain that mental processes could only be adequately studied through their physical equivalents. If the development of intelligence keeps pace with a developing nervous organisation and increased complexity of brain, if the process of

evolution is not divisible into two sections, one physical and one mental, there is no escape from the conclusion that the lapse from intelligence, or mental dissolution, will have its physical equivalent in the shape of a disordered nervous organisation and diseased brain structure. In that case Psychology, as expounded by Mr. Spencer, becomes a valuable aid to the practical physician. That it is so, I am assured by no less an authority than Dr. Hughlings Jackson, who in a private letter to me states that he has 'found Mr. Spencer's *Principles of Psychology* more useful than any other works on psychology in the study of those diseases of the nervous system which have a mental side. I believe that Mr. Spencer's doctrines of Evolution and Dissolution are of very great value in the methodical analysis of cases of insanity, and further that, on the basis these doctrines supply, relations of different kinds of disease of the highest cerebral centres to one another can be traced, and also relations of disease of these centres to diseases of lower centres of the nervous system.' Another distinguished authority, Dr. Mercier, whose writings have done much to elucidate the pathological aspects of mental evolution, writes me as follows: 'My idea of the value of Spencer's work is that he has done for co-ordinations in Time what Newton did for co-ordinations in Space, and by so much as the intricacy and multiplicity of the former exceed

those of the latter, by so much does Spencer's achievement exceed Newton's. In my own official work—in Neurology, Psychology, and especially in Pathology, I may almost say in the case of the two former and quite in the case of the latter, he has reduced chaos to order. He has at any rate discovered the fundamental principles of these sciences, and whatever systems are erected in these sciences in the future must be erected on the foundations he has laid. I am at present engaged upon a book on Psychology in which I am essaying to expand and apply his principles, to supplement and fill in his outlines.' This is sufficient answer to those who contend that the Spencerian philosophy, like the Hegelian, is a fantastic piece of theorising, having little or no basis in reality. It is Mr. Spencer's merit as a psychologist that to the keenest speculative vision he unites a devotion to fact so minute as to give his writings the stamp at once of philosophic profundity and eminent practical utility.

'But,' exclaims the startled reader, 'if mental life develops from biological life by unbroken stages, there is no escape from Materialism.' Foreseeing this objection, Mr. Spencer has been careful to point out that the terms Matter and Mind are after all symbols, not absolute existences. When the philosophical scientist endeavours to understand the nature of Matter and Mind he is baffled.

Though he may succeed in resolving all properties of objects into manifestations of force, yet, says Mr. Spencer, 'he is not thereby enabled to realise what force is. Similarly though analysis of mental actions may finally bring him down to sensations as the original materials out of which all thought is woven, he is none the forwarder; for he cannot in the least comprehend sensation—cannot even conceive how sensation is possible. He sees that the materialist and spiritualist controversy is a mere war of words. . . . In all directions his investigations eventually bring him face to face with the unknowable. He learns at once the greatness and the littleness of human intellect, its power in dealing with all that comes within the range of experience; its impotence in dealing with all that transcends experience. He feels, with a vividness which no others can, the utter incomprehensibleness of the simplest fact considered in itself. He alone *sees* that absolute knowledge is impossible. He alone *knows* that under all things lies an impenetrable mystery.' Students who have not gone to the root of his philosophy conclude that because Spencer, as distinct from Hegel, treats of the evolution of concrete Matter instead of abstract Spirit, therefore he is a Materialist. What Mr. Spencer says is that thought is conditional upon brain structure, and that increasing complexity of brain structure is paralleled by increasing complexity of

intelligence; in both cases the law of Evolution holds good. He is no Materialist. Like Job, Goethe, Carlyle, and all kindred thinkers, Mr. Spencer stands uncovered before the Power behind phenomena—that mysterious, awe-inspiring Power, the source of all phenomena, material and mental, the Infinite and Eternal, before which, now as of old, the fit attitude of the human soul is one of sacred silence and devout humility.

CHAPTER VIII

THE ECONOMIC EVOLUTION OF SOCIETY

WHAT is called progress in the purely organic world has been seen to consist in a series of structural and functional changes from a relatively simple state of organisation. Does social progress conform to the same law? According to Mr. Spencer, the formula which is applicable to purely physical phenomena embraces also social phenomena. Society, like an organism, begins in a state of relative simplicity, and by a series of structural and functional changes, reaches a state of relative complexity. The task which lies before the Sociologist is that of tracing the evolution of society through its various stages, from the primitive tribe to the highest form of civilisation. Here as elsewhere he is not primarily concerned with the question of origin. In treating of cosmical evolution, the evolutionist commences with the nebulæ; in dealing with organic evolution he begins with indifferentiated protoplasm; and in studying the development of society his starting-point is primitive man as historically discernible.

The task of the evolutionist is clearly defined: he has to discover the cause and law of social progress. His first duty is to endeavour to get back to the starting-point of human history, to the doings of primitive man.

Whatever view is taken of man's relation to the animal world, one thing is certain—his condition when history first catches a glimpse of him was not far removed from animalism. Primitive man was a creature of appetites and instincts controlled by rigorous necessities. Led by the senses, he was utterly devoid of morality in any real sense of the term. Marriage was unknown; the social bond weak and uncertain; life resolved itself into a bitter struggle for existence among a discordant mass of antagonistic units. In a word, society was in a fluid state resembling the nebulæ of the pre-planetary period. By what means was a start made in the direction of social integration? To the Sociologist the answer to this question is of fundamental importance. Once the cause of social progress is discovered, we have within our grasp the key to civilisation. The cause of social progress must be found in the nature of primitive man. A reference to Mr. Spencer's *Principles of Psychology* shows that whether the habits of an animal shall be solitary or gregarious depends upon the relation between the two most general functions—self-maintenance and race-maintenance. Those animals

which can adequately provide for their own wants lead solitary lives; whereas those which cannot supply their individual wants live and act in concert. Now of all animals man is least fitted to lead a solitary life; some kind of co-operation with his fellows is an indispensable necessity. Here, then, is the germ of sociality. The germ is increased by the necessities of race-maintenance. It is a physiological fact that the higher and more complex the physical and mental organisation the longer the period of infancy. However crude and unsatisfactory the affection between mother and child in primitive times, it must have been kept alive and increased during the period of infancy. Not that domestic relations had any coherence or stability. There is good reason to believe that the family was not the earliest form of social organisation. A species of domestic communism seems to have preceded family life, but under whatever form, the tie between mother and child was enduring. Civilisation on its highest and noblest side is rooted in motherhood. Even in primitive society the strength of affection fostered by the maternal relationship did something to counteract the force of the purely selfish feeling, and to increase the fund of sociality. Sooner or later the family as an institution was bound to evolve from tribal chaos; and when it did evolve the first step was taken in the path of civilisation. Upon primitive man, when the stage

of the family was reached, two pressing duties devolved—self maintenance and family maintenance. In other words, the cause of social activity was man's desire to provide for his own wants and the wants of those dependent upon him. Comte, followed by Mill, makes the intellect the chief cause of progress. According to them, civilisation is prompted and controlled by ideas. Ideas play a great and ever-increasing part in civilisation, but they are not the prime cause. Progress has an economic root. In order to live, in order to maintain correspondence with his environment, man, like plants and animals, must have adequate sustenance. The first task imposed upon primitive man by the rigours of his environment was not to get true ideas, was not intellectual culture, but the gratification of his physical requirements. He had to live, and the first necessity was to supply his material needs. The cause of social progress lies not in the intellectual but in the physical side of human nature. Society took its rise from the fact that man by co-operating with his fellows was abler to supply his wants than by individual effort. Not that there was any formal contract, as Locke and Rousseau would have us believe. Primitive men formed themselves instinctively into tribes in order to lessen the stern struggle for existence.

With the formation of tribes the struggle for existence entered upon a new phase. In primitive

times, owing to man's ignorance of natural laws and processes, population constantly outran the means of subsistence. Darwin has familiarised the modern mind with the view of Nature as an arena in which plants and animals are engaged upon a life-and-death struggle for existence, a struggle in which only the fittest survive. In this arena primitive man also fought. We moderns have greatly lessened the force of the struggle, because by science we have learned to make the means of subsistence outstrip the increase of population. But in early times life was a perpetual struggle for the means of subsistence, and naturally the struggle took the form of wars between tribes. With an increasing population and a stationary food-supply tribes had either to starve or steal. A policy of annexation was thrust upon men by sheer necessity.

It needs little reflection to see that wars must have been an integrating factor of great force. Militarism must greatly have increased the cohesiveness of the tribal bond; in Spencerian phraseology, it made for social integration. Under Militarism the individual was necessarily subordinated to the tribe or state. This subordination was intensified by primitive religions which, by deifying the chief or king, identified the law of the tribes or kingdom with the will of Heaven. Thus it was that under the military regime humanity was ruled both by the dead and the living; indeed, the rule of the dead

was the stronger, inasmuch as the ruler was only obeyed so long as he voiced religion and tradition. The development of primitive humanity becomes intelligible when we describe it as progress from the tribal stage to a complex military stage by a series of integrations and differentiations. But the military regime contained one fatal defect. The task of procuring sustenance became subordinated to that of aggression. War, which in the earlier stages was a means to an end, became ultimately an end in itself. The nation was divided into workers and warriors. Under the influence of religion and patriotism, war was glorified as the main function of life, and to the military ranks gravitated the best talent of the community. In the words of Buckle: 'The three most distinguished statesmen Greece ever produced, Solon, Themistocles, and Epaminondas were distinguished military commanders. Socrates, supposed by some to be the wisest of the ancients, was a soldier; and so was Plato; and so was Antisthenes, the celebrated founder of the cynics. Archytus, who gave a new direction to the Pythagorean philosophy, and Melissus, who developed the Eleatic philosophy, were both of them well-known generals, famous alike in literature and in war. Among the most eminent orators, Pericles, Alcibiades, and Demosthenes were members of the military profession; as also were the two greater tragic writers, Æschylus and Sophocles.

The most philosophic of all the Greek historians was certainly Thucydides, but he, as well as Xenophon and Polybius, held high military appointments, and on more than one occasion succeeded in changing the fortunes of war.'

While war was held in the highest honour, industrial labour was held in the greatest contempt. As a consequence, slavery, as we see from the political writings of Aristotle, was viewed as the normal state of the lower orders. Following this, there could be no such thing as distribution of wealth among the people. Among ancient nations the function of the people was to minister to the pleasure of the rich, who held a monopoly of power and wealth. Of all the nations of antiquity Greece came nearest to the modern ideal, but she fell because she endeavoured to import a democratic constitution, suitable to the industrial regime, into the military regime. Greece struck the note of freedom and individuality, but she was a premature development. Greece was born out of due season. In a warlike epoch, a democratic community, resting upon slavery, and devoting its resources to military aggrandisement, could not hope permanently to resist the encroachment of a world-wide military power. Greece fell a prey to Rome. Rome in her turn fell a prey to militarism with its false economic system. Much has been said of the causes of Rome's decline and fall. Many causes

were at work — religious, moral, social and political, but underlying them all was the one cause which was at the root of the decay of ancient civilisation, namely, the unequal distribution of wealth, with the resulting slavery of the populations. Instead of production of wealth by means of science and industry, there was annexation of wealth by means of war and conquest. Instead of distribution of wealth on the lines of intelligence and industry, there was monopoly of wealth on the lines of military force and slavery. The result of this was the corruption of the governing classes and the deterioration of the lower classes. So long subordinated to the State, and treated as a mere chattel, the individual was totally unfit to cope with the fierce liberty-loving independent barbarians who broke up the Roman Empire. Under the military regime humanity failed to solve the first necessity of life—that of adequately providing for its own sustenance. The great economic experiment in the hands of Militarism had proved a colossal failure. Rome arrested human progress, and Rome was overthrown by the progressive instincts of humanity, which nothing can permanently thwart.

From the ruins of the Roman Empire there arose, slowly but surely, a new social order. This time, owing to the widespread anarchy, society was reorganised, not on the basis of the family or the tribe, but on the Feudal system. At first it seemed

as if one kind of despotism had simply been exchanged for another. Feudalism was nothing if not despotic, and it was difficult to see how society would avoid the rock upon which it had already split, the rock of Militarism. But in the heart of Feudalism lay hidden the germ of progress. When society began to assume a relatively settled form, when all the great lords' dependants were not needed for military duty, a number were settled around the estates as 'hinds' and artificers. This social differentiation had far-reaching consequences. The moment an attempt was made to provide for human necessities by means of labour instead of by war, that moment a new hope dawned upon the horizon of humanity. From the small body of artificers which, slave-like, clung to the bounty of the great feudal lords sprang Industrialism, with all its world-transforming influences. Guizot traces the earlier evolution of Industrialism as follows:—'No sooner was society a little settled under the feudal system than the proprietors of fiefs began to feel new wants, and to acquire a certain degree of taste for improvement and cultivation; this gave rise to some little commerce and industry in the towns in their domains; wealth and population increased within them—slowly for certain, but still they increased.' By and by the industrial serfs in the towns of the lords' domain began to feel their power. They became what the slaves of the ancient world

never became, an important factor in the social system. To prevent the town serfs from increasing in independence, the lords resorted to harsh and despotic measures. Between the two a great struggle for supremacy took place. It ended in the triumph of the burghers, who freed the towns from the harassing rule of the feudal law. From this dates the emancipation of industry. Henceforth freedom was given to a new power in the State. The satisfaction of human wants was to be accomplished, not by war, but by peaceful industry. The individual man was at last permitted to secure his own sustenance by means of labour, instead of having the fruits of his labour taken from him by war and slavery. When society acknowledged the right of the individual to be what Nature intended him to be, a being formed for self-maintenance, the first stage was reached in the evolution of an enduring civilisation.

The great problem of social evolution is to preserve the spontaneity and freedom of primitive humanity along with the social restraints and influences which are needful for the cohesion of society. In Spencerian language, the difficulty is to allow the cohesive or integrating forces in society to have due influence without stamping out the principle of variation or differentiation, upon which progress depends. In the organic world Darwin has made us familiar with the truth that plants and

animals which do not respond to the variation in the environment are doomed to disappear in the struggle for existence. We have seen that ancient civilisation disappeared from the same causes. Religion, Government, economic error, all tended to produce individual and social stagnation. The different nations failed to adjust themselves to outer relations, and Nature in her sternest mood stamped them out of existence.

It is now to be seen how modern civilisation set itself to solve the problem of uniting social cohesiveness with individual variability. Modern civilisation in so far as it has been progressive has proceeded by successive integrations and differentiations. We have already seen the cause of social progress to lie in man's efforts to satisfy his material wants. When that cause is not allowed to operate, there results individual and social stagnation. The operation, when allowed to take place, must follow a definite law. What, then, is the law of social progress? The law is that where material prosperity, the result of industry, is the most widely distributed, the greater is man's progress intellectually, morally, and socially. This has been so well stated by an American author, Mr. Gunton, who has so admirably applied the doctrine of Evolution to social philosophy, that his words deserve to be reproduced: 'The progress of society towards greater complexity of organisation, in which the necessity of physical

effort is diminished, intellectual power and personal freedom increased, and moral character elevated, is always in the ascending order from the material to the intellectual and moral; the material being the basis, the intellectual the means, and the moral qualities the result.' By overlooking the fundamental importance of the economic side of society great confusion has been imported into the study of civilisation. One writer, De Tocqueville, mars a series of otherwise profound generalisations by tracing the social and political phenomena of modern societies to the passion for equality, which in his view is the distinctive note of democracy. To what is the passion for equality due? Had De Tocqueville pursued the subject further, he would have found that the passion for equality has its root in the economic necessity of man to secure equal rights as a primary condition of self-maintenance. Men did not agitate for political freedom from an abstract love of freedom: they sought for political rights as a means of securing the right to labour, and the right to the fruits of their labour. Like De Tocqueville, Comte went astray in attributing civilisation to an abstract law like that of the three stages, instead of to the economic law that mankind seek to satisfy their material wants along the line of least resistance.

When industry began to assert itself, two great powers of resistance blocked the way, — the

State and the Church. In the Middle Ages the people were ground under two despotisms, the Roman Catholic Church, and the State, as represented by the feudal lords and monarchy. How were these successfully attacked? The common view is that the Roman Catholic Church had its despotic power weakened by the Protestant movement, and that the despotism of the Crown and the lords was weakened, in this country at least, by the unique concessions arising from the Crown and embodied in Magna Charta. That the revolt against Roman Catholicism had a deeply religious side no one would deny. But what made the revolt a success? A clue to the answer is had when it is remembered that the Church of Rome came into collision with the new industrial ideal. The teaching of the Church, as Mr. Lecky well shows, was based on monastic, ascetic, and other ideals which were totally incompatible with the industrial and commercial spirit. At every turn industry and commerce found themselves hampered by laws and teachings which not only repressed individual effort and initiative, which are the roots of Industrialism, but which treated the accumulation of wealth and devotion to money-getting as sinful. A religious system which ran counter to the economic tendencies of the new industrial epoch was bound to come into collision with the growing intelligence which a life of secular activity directly and indirectly fostered.

It was no accident that the Reformation, and for that matter political freedom, made greatest progress in those countries where the towns had gained the greatest success in their contest with the feudal regime. It is a significant fact that 'England was the only country in which the Free Towns were not overpowered by either the Church, the Monarchy, or the Barons': and consequently it was the only country in which religious, social, and political progress was not arrested. The middle classes became a power in the State when they wrested the control of the towns from the barons, and the same classes, imbued with the spirit of freedom and intelligence, the out-growth of the industrial regime, broke the back alike of Papal domination and aristocratic and monarchic despotism.

One of the elements of perplexity which confront the student of civilisation is the manner in which phenomena, which were at first effects, ultimately become causes. The desire for material satisfaction, which is the primary cause of social progress, leads naturally to increased knowledge of Nature. Increase of intelligence, the effect, becomes itself the cause of further increase of material prosperity, and thus social differentiation, which began instinctively, is followed consciously and with rational purpose. No thinker has done more to show the close psychological connection between this double process of

civilisation than Mr. Spencer, and no thinker has done more to focus the historical effects of the process than Comte. Upon the mind of the student, Comte's picture of the Middle Ages, the fall of the feudal regime, and the rise of the industrial epoch, has all the effect of a panoramic vision. Were it for nothing else than his magnificent historical survey, Comte would be entitled to everlasting remembrance by philosophic students of intellectual, social, and political evolution.

It is difficult, if not impossible, to estimate in detail the value of the various discoveries in science, the increase of knowledge, the rapid progress of inventions, upon the development of civilisation, especially on the side of complexity and variability. To these we must largely attribute the great contrast between the fixity of ancient civilisation and the flexibility of modern civilisation. But two causes must be signalised as exerting a momentous influence upon the great evolutionary course of society, namely the substitution of Free Trade for Protection, and the substitution of machine for hand labour. In the past these have produced great effects, the full force of which, however, will not be felt till the removal of disturbing influences in the form of certain politico-economic delusions. Even yet the old superstition about the evil effect of machinery is alive in the mind of working men; and they are not to blame when they can quote the

depreciatory words of Mill in his *Political Economy*. And as regards Free Trade, the world is yet far from admitting the truth of the great economic conceptions of Adam Smith, who did for the industrial what Newton did for the physical world.

What is the precise relation of Adam Smith's economic gospel to the evolution of society? No greater evidence that the primary cause of social progress is not ideas, but desires, is had than the unreasoning way in which mankind carried into the industrial era the ideas and methods which pertained to Militarism. What a sad commentary upon human intelligence is the fact that not till the time of Adam Smith was the true theory of trade and commerce formulated in scientific terms! For centuries trade and commerce were conducted under the influence of an economic theory which kept alive the old features of antagonism that belonged to the military period. Under the influence of Protection trade and commerce, instead of uniting mankind, kept alive feelings of disunion. War, instead of dying away in presence of a higher type of civilisation, was made an instrument of national aggrandisement. Nations laboured under the delusion—natural enough when wealth and conquest were synonymous—that they could only become prosperous by beggaring their neighbours. In the words of Adam Smith: 'Each nation has been made to look with an invidious eye upon the prosperity of all the

nations with which it trades, and to consider their trade as its own loss. Commerce, which ought to be among nations, as among individuals, a bond of union and friendship, has become the most fertile source of discord and animosity.' The intelligent adoption of Adam Smith's doctrine as the corner-stone of foreign policy is only a matter of time; and when Free Trade is universal, humanity will advance from the stage of nationalism to that of internationalism. When that day arrives wars will cease. As I have expressed it in my work on Adam Smith: 'Free Trade rests, not like mercantilism, on national independence, but on national interdependence. Under Free Trade the progress of one nation makes for the progress of all. Fleets and armies are no longer needed to secure a monopoly of trade, to preserve the balance of power, because in obedience to an economic law those countries which are industrially equipped will share in the trade of other countries, even in the teeth of protective tariffs. Free Trade is not synonymous with a clash of interests, but in essence means mutually advantageous exchange of services. Once this view is reached, there flashes on the mind the vision of a time when the whole world will be bound together by the golden chain of self-interest, a self-interest which recognises that, given the conditions of liberty and justice, the gain of one is the gain of all. Free Trade thus appears in its true light as,

from the economic side, the application of Christian ethics to the international sphere. Nations, instead of being hated rivals, each armed to the teeth lying in wait for the other, are seen to be members of a great federation, each developing its resources to the utmost, and exchanging its products in harmony and with mutual profit.' What a stride from the ferocious tribal rivalries of primitive man, and the scenes of carnage among the great military nations of the past, to the doctrine of world-wide peace taught by Adam Smith! Well might Richard Cobden describe Free Trade as the international law of God Almighty.

What an ennobling vision of humanity would have been vouchsafed Adam Smith had he realised the extraordinarily beneficent impetus which would be given to his economic gospel in the age of machinery! Wonder is often expressed at the sterility of the intellect of the ancients in the domain of inventions and machinery. How could it have been otherwise? Even in Greece civilisation was represented by an aristocratic elect maintained in idleness and affluence by a slave population whose material wants were few, limited, and stationary. Apart from the fact that ancient thinkers looked upon labour as the peculiar work of slavery, and were therefore not likely to desire methods of saving labour, there was not a population sufficiently developed to cause a demand for machine-made goods, which cannot be

produced at a profit unless in large and increasing quantities. Until the lower classes had advanced so far in material prosperity that there arose among them a variety of desires other than the purely material—social and intellectual desires—there could be no market for the products of machinery. The time was ripe when in England there had arisen a large and comparatively intelligent middle class who were so far removed from the claims of physical necessity as to enjoy the pleasures and luxuries of life.

In what way, then, does the substitution of machine for hand labour help forward the evolution of society? In other words, how does machinery contribute to the material prosperity, intellectual improvement, and moral elevation of the people? In pre-machinery days, when the market for labour was small and uncertain, and when the wages bill was the main element in cost, high profits could only be received by cheap labour. When the market was large and increasing, the superiority of machine over hand labour turned to the advantage of the worker. The advantage is twofold. Intelligence on the part of the worker becomes an important factor in mechanical superiority; consequently it is to the advantage of the master to grant high wages to the intelligent worker. Moreover, as the object of higher wages is to cheapen production, it follows that the worker, who is also a consumer, benefits in

the cheapening of products brought about by his highly paid labour. Thus in a twofold manner the working population profits by machinery—by higher wages and by their increased purchasing power. In the words of an American economist: 'A reduction in the price puts commodities within the reach of another large class who were previously unable to consume them, and the market is thereby extended, thus enlarging the income without raising the rate of profit —all of which tends to further increase the demand for labour and to improve the general well-being of the community.'

A civilisation resting upon hand-made goods necessarily involves the hopeless poverty of the workers. In such a civilisation labour must necessarily be cheap and necessaries dear; whereas in the machinery era the situation is reversed—wages are increased and the necessaries of life cheapened. When we say that wages are increasing, what does that imply but that man the worker is increasing in value; and when we say that the necessaries of life are being cheapened, what does that mean but that for the consumer, who is also the worker, life is becoming easier and more comfortable? The ancient civilisations fell because man the worker was of no value; he was treated as a commodity to be bought and sold—as an instrument to be used for the selfish enjoyment of a minority, whose corruption brought social ruin. Modern civilisation con-

tains the elements of endurance because man the worker is increasing in value with every increase in intelligence and morality. As man the worker is also man the consumer, it is clear that every advance in intelligence, leisure, and morality must raise the standard of society till intellectual and æsthetic pleasures become no longer the monopoly of a rich and cultured few, but the heritage of the many. And thus we come to understand the Spencerian definition of social progress as a complex process of adjustment with a complex environment, comprising not only material sustenance but all other intellectual, social, and ethical pleasures which distinguish a being of great potential qualities. Civilisation is simply the process of adjustment on a large scale whereby man's whole nature, physical, intellectual, and moral, develops in all its marvellous complexity in response to an environment also increasing in complexity.

CHAPTER IX

THE POLITICAL EVOLUTION OF SOCIETY

In the preceding chapter an attempt was made to formulate the cause and law of social evolution. The cause is not intellectual, as Comte and Mill believed, but economic. Social activity has its origin, not in the intellectual side of human nature, but in the primitive passions and instincts which man shares with the animal creation. Man, like the animal, must provide for his material wants, and as individual man is the weakest of animals, in order to maintain with success the struggle for existence, he is driven to associate with his fellows. Moreover, as was shown, the germ of sociality fostered by family life somewhat softens the fierce play of egoism, and lays the foundation of altruism, which in the higher forms of civilisation flowers in the shape of patriotism, philanthropy, and all the heroic virtues which link man with the divine. In dealing with the political evolution of society, it is essential not to lose sight of the economic root. Once the economic root is overlooked, the thinker falls into

the error of attributing political constitutions either to the deliberate intentions of despots, as with Hobbes, or to a social contract, as with Locke and Rousseau, or to considerations of utility, as with Bentham. If the economic root is kept steadily in view, the political history of humanity becomes intelligible.

A flood of light is thrown upon the origin of political constitutions by Mr. Spencer's comparison of society to an organism. What are the distinguishing characteristics of the animal organisation? In order that an animal shall live, the animal must be possessed of a threefold structure: it must be able to maintain itself by the assimilation of food; it must have a distributing system, by means of which food is carried to various parts of the body; and it must have a defensive system, by means of which it can regulate its movements in presence of enemies. In the most primitive form of society this threefold constitution exists in the germ. The tribe must provide itself with food, must secure the means of subsistence. The manner in which this is done determines the nature of the other two structures — the distributive and the regulative. In primitive times, owing to man's ignorance, the productive power of Nature does not keep pace with the increase of population; consequently the system of distribution does not, as in later times, take the form of friendly barter, of exchange, but of forcible

appropriation. War is the normal state of primitive society. Under these conditions, the political or regulative structure is the natural outgrowth of the economic structure. In other words, political constitutions are determined by economic conditions.

That this is so is evident from a study of early societies. Where the economic conditions are simple, the distributive and regulative systems are simple. Where the economic conditions are complex, the distributive and regulative agencies also increase in complexity. Society, in the course of its development, obeys the Spencerian law of progress from the simple to the complex through successive integrations and differentiations. Societies are divisible into two kinds—Military and Industrial. Not that these have existed separately. Under the military regime industry necessarily existed, and under the industrial regime militarism has never been wholly absent. We call a regime military when industrial resources are used to support the military system in carrying out the national ideal of war. We call a regime industrial when industry is the national ideal, the army simply being used for defensive purposes. Given a tribal kingdom, a nation predominantly military, resting upon the idea that economic prosperity depends upon the forcible appropriation of territory, and the political constitution will evolve along certain natural and necessary lines. In brief, political constitutions are determined by

social necessities. Where these involve war, as must be the case where prosperity is believed to be synonymous with forcible possession of territory, everything will be sacrificed to military efficiency. The army will simply be the nation mobilised; industry will be exploited in the interest of war, and the individual will be subordinated to the State. The method of regimentation, so conspicuous in the army, will be extended to all classes of the community; individual liberty will be reduced to a minimum. In a word, an economic conception of life which rests on war necessarily involves a political constitution resting on despotism.

History abundantly justifies these generalisations. In tribes where wars are rare, individual freedom is greatest. With difficulty can the Chief secure obedience. Even he himself is allowed to command only so long as he pays due deference to tribal customs which, though unwritten, have all the coercive force of laws. With war, the situation undergoes a change. In presence of enemies the loosely-connected units form themselves instinctively into a compact mass under the bravest leader; the tribe undergoes a process of integration. The democratic form of government which manifests itself even in primitive tribes in a peaceful regime gives place to a military dictatorship. At this stage there is no difference between the military organisation and the political organisation. The

dictators who determine questions of defence and offence naturally settle questions of a purely civic character. Industry, being an adjunct of the military system, comes under the sweep of the principle of regimentation which naturally belongs to a state of war. Be the outward form of government what it may—monarchical or oligarchical—those in possession of power in the military regime carry into the internal management of the nation the principle of regulation or despotism, which in the army is an absolute necessity. The individual has no rights against the State. He is valued only in so far as he contributes to the security of the State. In the ancient world, where war was the main occupation, the individual was used simply as an instrument for the glorification of the State. The State might grant him privileges; he could demand no rights. In Rome, as the result of social stability, philosophers began to talk about the law of Nature, and progress in the recognition of individual rights might have been made but for the eruption of barbarism, which overthrew the ancient civilisation, and once more placed Might on the throne of the world. The long reign of militarism was necessary to produce order out of confusion, and, of course, under feudalism despotism again reigned supreme. The military dictator under feudalism was as much the political dictator as under the great despotic governments of the ancient world. To quote from Mr.

Spencer: 'Up to the tenth century each domain in France had its bond, or only partially free, workmen and artisans, directed by the seigneur, and paid in meals and goods. Between the eleventh and fourteenth centuries the feudal superiors—ecclesiastical or lay—regulated production and distribution to such extent that industrial and commercial licences had to be purchased from them; in the subsequent monarchial stage, it was a legal maxim that "The right to labour is a royal right which the prince may sell and subjects may buy"; and onwards to the time of the Revolution the country swarmed with officials who authorised occupation, directed processes, examined products. In the old English period the heads of guilds were identical with the local political heads—ealdormen, wick-port, or burgh revees; and the guild was itself in part a political body. Purchases and bargains had to be made in presence of officials. Agricultural and manufacturing processes were prescribed by law. Dictations, of kindred kinds, though decreasing, continued to late times. Down to the sixteenth century there were metropolitan and local councils, politically authorised, which determined prices, fixed wages, etc.'

Under Militarism, whether in the ancient world or in the modern feudal world, one process may be detected, namely, the integration of tribes into communities, communities into kingdoms, and kingdoms

into nations. In all cases the inspiring motive was the desire for territory by means of war. No doubt other causes—such as religion—came into operation, but the root-motive of social evolution was economic—the desire for wealth on the part of the governing classes. War was the instrument of this desire, and industrial workers were valued solely as providing revenue for the ruler and a commissariat for the army. Under such economic conditions, the political constitution rested upon despotism, though the form which it took differed in different countries. It matters little about the form—whether monarchical, oligarchical, or feudal—if the result is the same, namely, the subordination of the individual to the State. Social integration is an indispensable factor in progress, but in studying organic evolution we saw that an equally important factor is differentiation, and the power which an organism possesses of varying in response to varying agencies in the environment. Now the political constitutions which evolved alongside of Militarism made no provision for the factor of differentiation. Everything was fixed by statutes. In industry, in religion, in politics, variations which would have been profitable to civilisation were crushed out. The labourer who claimed the right to work for himself was treated as a rebel serf, the religious man who claimed a right to dissent from the church was a heretic, and the political man who rose against consecrated

despotism was a traitor. Manifestly, under the military regime, progress was impossible. Progress was in danger of being arrested by a political system of despotism. Whence was salvation to come?

In the previous chapter it was shown that a new era appeared when Industrialism began to be of more importance than Militarism. When, thanks to feudalism, something like social security had been reached, not war but industry became the means of procuring wealth. Such a far-reaching change in human affairs could not take place without having a marked effect upon political constitutions. With the rise of the Free Cities the old doctrine of Might upon which political despotism rested gave place to a new doctrine of Right. With the rise of commerce and industry, the natural rights of man, which had been hidden from view during the long reign of militarism, clamoured for recognition. The long contest between the feudal barons and the freemen was something deeper than a squabble over charters. At bottom the demand of the city-dweller was the demand that no longer should the individual be subordinated to the ruling power, that the individual had certain natural rights with which no political power, king, knight, or legalised government, could meddle. The abolition of serfdom had its root in the feeling that the individual should no longer receive his freedom as a privilege from his

feudal superior, but could demand it as a right; and the victory of the towns over the barons implied that men of industry and commerce had a right to the fruits of their labour. The key to the political evolution of society in this country, from Magna Charta to the last Reform Bill, is found in the fact that the long period was a contest between the old despotic elements in the British Constitution founded on Might, and the growing industrialism with its demand for the recognition of the fundamental rights of man—rights, moreover, which have a biological and psychological justification—the right to live, the right to think, the right to labour, and the right to the products of labour. The various modifications in the British Constitution, from the absolutism of the Stuarts to the constitutionalism of the Hanoverians, the oligarchy of the Lords, and the democracy of the Reform period, represent successive stages in the great contest between the old despotism under which the individual had no rights as against the State, and the modern view that the duty of the State is not to confer rights but to safeguard the prime rights of man, to which the State itself owes its existence and its rationality.

In confirmation of the view that the political constitution of a particular period is conditioned by the dominant economic force, is the fact that Magna Charta, the starting-point of England's political freedom, was the product of the industrial and

commercial conflict with the military despotism of the Crown. True, in the contest the burghers had the co-operation of the barons, who single-handed were unable to cope with the king. All the same the rights embodied in Magna Charta secured the burghers against the violence of the barons as well as against the despotism of the king. By Magna Charta it was declared that no freeman shall be deprived of his freehold liberties or free customs, be executed, or outlawed, but by lawful judgment of his peers or by the law of the land. Here was a great advance upon the military regime, which by entirely subordinating the individual to the State conceded privileges but denied rights. Magna Charta established in England the doctrine that the individual had a right which the State dare not override, namely, the right to justice. Fifty years later, another right was wrested by the burghers from the State—the right to take part in the councils of the nation by returning representatives to Parliament. After the reign of King John, the towns were granted charters which gave them municipal independence, including the right to make their own laws, elect their own magistrates and judges, levy their own taxes, etc. The economic revolution by which the Free Cities rose and flourished gave an impetus to the political revolution which later destroyed the absolutism of the Stuarts, weakened the power of the aristocracy, and paved the way

for the reformed Parliament in which the Corn Laws were repealed, slavery abolished, Free Trade declared, the legal code purified, and restrictive laws which pressed heavily upon labour removed from the statute-book.

Further confirmation of the view that political evolution is conditioned by economic evolution is had in the fact that in those countries where the Free Cities were destroyed, where economic progress was arrested, the political evolution received a check, and a retrograde movement to despotism took place. In Spain charters were granted to the towns early in the eleventh century, and in the twelfth they were represented in the Cortes. The benefits of these political reforms were lost by the religious wars which raged. In Spain militarism was too strong for industrialism, which gradually grew weaker and weaker until, in the fifteenth century, the burghers ceased to be represented in the Cortes. With the weakening of economic forces in Spain began the decline of that great nation in wealth and political freedom. In Italy the cause of political freedom was also arrested by the fall of the Free Cities. The decline of material prosperity was followed by the loss of all that makes for progress. In France likewise the fall of the Free Cities led to the revival of political despotism and social misery. In France the burghers were worsted in their struggle with the barons, the

feudal system was re-established in a form so odious as to lead to the great Revolution. The Free Cities, the outcome of economic forces, by ultimately destroying the political system of militarism and erecting a political constitution on the idea of Right instead of Might, were the birthplaces of material prosperity, and as a consequence became the nurseries of civilisation.

An American writer, a thinker thoroughly imbued with the evolutionary philosophy, sums up the close relation between economic and political evolution as follows:—'If we examine the progress of political and religious freedom, we shall find that it has always followed the line of the material prosperity of the masses, rising where that rose, falling where it fell, and becoming permanent only where industrial improvement had been general and continuous. England was the only country in which the Free Towns were not overpowered by either the Church, the Monarchy, or the Barons, and consequently it was the only country in which social and political progress was not arrested. The Cortes of Spain, the States-General of France, and the Republics of Italy rose and passed away, scarcely leaving their imprint upon the national character, while the English House of Commons has ever stood out as a conspicuous feature of modern civilisation.'

The remark has already been made that in the complex phenomena of social life it frequently

happens that effects become themselves potent causes. Thus political constitutions, which are really the effects of economic causes, by and by become the causes of increased economic prosperity. How, then, did legislation influence economic progress? If we study the great legislative reforms of the past from Magna Charta to the Reform Bill, we find that they may all be summed up in three words—Life, Liberty, and Property. Whether we study Magna Charta, the Reformation, Free Trade, Political Emancipation, we find throughout them all the assertion of the right of man to live, to think, to labour, and to retain the products of his labour. Legislative reform has mainly consisted in repealing despotic measures which, congenial to the military regime, and sometimes beneficent, were fruitful in evil when carried forward to the industrial epoch.

Of late years a new theory of political evolution has become popular—a theory which cannot possibly meet with the endorsement of the Evolution philosophy as here expounded. From the Spencerian point of view any theory which advocates increased power of the State, whether in the form of Socialism, Collectivism, or Trade Unionism, stands condemned as a retrograde movement, as an attempt to revive parts of the political and regulative system which belong to the regime of Militarism. If man has natural rights, manifestly no power on earth has a right to infringe them, be the motive what it may.

Under a military regime men may have to risk their lives and their property to defend the national existence, but in a civilisation resting upon pacific industry no body of men can have a mandate to tamper with the rights of their fellows. The fundamental principle of Liberalism which finds ample justification in the Evolution philosophy is this—Every man is to do that which he wills, provided he infringes not the equal freedom of any other man. Socialism, Collectivism, and Trade Unionism, in their respective spheres, are attempts to destroy the initiative and energy of the individual from which have sprung the best elements in civilisation, and revive the principle of regimentation which belongs to the military epoch—a principle which makes man a slave, an automaton, a machine. In the organic world progress is secured by the survival of profitable variations by giving free play to the principle of differentiation. Subordinate the man to the State, and at once order is secured at the expense of progress, and for the healthy evolution of civilisation we have a repetition of the old paternal communities of Peru, which were so lacking in stamina that they fell before the first blast of misfortune. It is no coincidence, but a natural sequence, that Socialist ideas at home should lead to revival of Militarism abroad. If it is legitimate to legislate in the interests of the people in domestic matters, it becomes equally legitimate to attend

to their interests abroad. If Parliament is competent to legislate on behalf of labour at home, it is also competent to secure an increase of trade abroad by means of diplomatic scheming involving the risk of war. The revival of Militarism means the revival of despotism, the decay of prosperity, the decay of political and individual liberty, and a lowering of those national ideals which have inspired the best and truest of Englishmen in their heroic battle for justice and freedom.

This retrograde movement receives intellectual assistance from a school of political philosophers who deny that man possesses natural rights. In their view rights are creations of the State; consequently there are no first principles in politics, only expediencies. If this theory be correct, Militarism and Socialism cannot be combated on purely intellectual grounds. What has the Evolution theory to say to this doctrine, which is simply a revival of the social contract theory of Hobbes, Rousseau, and Bentham? The idea of a social contract has its root in the error into which Comte and Mill fell, namely, the belief that progress is the result of knowledge acquired and deliberately organised. Now nothing but confusion results till the truth is recognised that man's first steps in progress are made, not by means of his intellect, but through the spontaneous operations of his instincts, desires, and passions. Hobbes had a glimpse

of this truth, but he missed its significance by his defective view of human nature. Man, with Hobbes, is purely a selfish animal, and therefore with him there was no road out of individual isolation to social co-operation except by the way of deliberate calculation of the benefits to be derived from the social state and deliberate submission to a despot. Bentham, like Hobbes, had a low view of human nature. The only difference between them was that the one saw no hope of social organisation except through a despotic monarchy, whereas the other pinned his faith to a utilitarian democracy. The end which Hobbes sought to gain by absolutism, Bentham, and for that matter Rousseau, sought to gain by a popularly elected government whose aim was the greatest happiness of the greatest number. For the rights of man, which had fallen into discredit by the excesses of the French Revolution, Bentham substituted the happiness of man.

Had Bentham and his followers stopped to analyse their political creed rigorously, they would have discovered that it is impossible to divorce the idea of happiness from that of rights. What is meant by the popular saying that self-preservation is the first law of nature? What is the meaning of the phrase—struggle for existence? The meaning plainly is that man, like the animal, asserts the right to live, the right, that is, to exercise his powers and faculties. When this right is admitted, happiness follows as

a natural consequence. Surrounded on all hands by enemies and obstacles, primitive man finds existence so precarious that, urged on not by deliberate reasoning but by the instinct of self-preservation, he joins himself to his fellows. He does not look to government to procure happiness; he expects government to safeguard his freedom and security, which are the conditions of happiness. Primitive man loses his freedom in ways already indicated. Governments, tribal and other, rob him of his freedom, and then begins the contest between the individual and the State. If it is the function of governments to legislate for the greatest happiness of the greatest number, such a social state is quite compatible with the unhappiness of the minority, and thus under Bentham as under Hobbes the individual has no claims against the State, which fulfils its duty when the happiness of the majority is secured. On the other hand, if the function of the State is to safeguard the rights of man—the right to live, to think, and to labour—then the requisite conditions are secured for the individual to realise his own happiness. By making happiness the direct aim of legislation you deprive a minority of their happiness; by making liberty the direct aim, you produce happiness as a natural consequence, or at least you make the happiness of the individual the direct result of his own conduct. If he chooses to abuse his right to liberty, he cannot blame the State

for his unhappiness, whereas under the Benthamite constitution the happiness of the minority is necessarily interfered with to increase the happiness of the majority. Or as it might be put otherwise, happiness in man is the natural consequence of the developments of his instincts, desires, and faculties. This development cannot take place unless under favourable conditions—in other words, where liberty to develop is secured. Thus the conclusion is reached that so far from society being dependent upon government for its existence, government is simply an effort to procure the necessary conditions for the proper development of society. Society exists before government. Governments do not exist for the purpose of laying down the principles of social co-operation. Social co-operation grows out of the desire of men for one another's society for purposes of mutual help. The true function of government is to see that the individual in the assertion of his liberty does not encroach upon the liberty of his fellow. Nowhere has the distinction between society and government been more clearly stated than in the writings of Paine, the author of *The Rights of Man*: 'A great part of that order which reigns among mankind is not the effect of government. It had its origin in the principles of society and the nature and constitution of man. The mutual dependence and reciprocal interest which man has in man and all the parts of a civilised community upon

each other create the great chain of connection which holds it together. The more perfect civilisation is, the less occasion has it for government, because the more does it regulate its own affairs and govern itself.' Government 'is nothing more than a national association acting upon the principles of society'—a definition very different from the one given by those who deny the rights of man, namely, that society is the creation of government, and needs to be regulated by paternal methods.

In their practical results these opposing theories may be studied in the Old and New Liberalism. About the time of the French Revolution, Liberalism underwent an important change—a change which Burke was the first to detect. Rousseau shifted the foundation of Liberalism from natural rights to political rights. According to the French thinker, the fundamental right of man was not the right to liberty, but to an equal share in the government of the country. The people in the exercise of their political rights being in the majority were sovereign; what, and only what, they legislatively declared to be rights were treated as rights. The hitherto accepted natural rights (liberty and property) could be annihilated by the fiat of the all-powerful majority. It is this French theory of political thought which has passed into British politics under the name of the New Liberalism. According to the Old Liberalism, every man has a right to his own

property; according to the New Liberalism the majority have a right to encroach upon other people's property in order, as Mr. Chamberlain's 'Radical programme' puts it, to increase the comforts and multiply the luxuries of the masses. The Old Liberals would have spurned such an interpretation of their creed. In their view, justice and liberty had nothing to do with majorities and minorities. They fought against slavery, not because it was supported by a powerful minority, but because slavery was a violation of the fundamental right of man to personal liberty. The Old Liberals fought for toleration, not on the majority principle, but on the principle that no power on earth had a right to interfere with liberty of conscience. The Old Liberals advocated an extended franchise, not in order to shift absolute power from the classes to the masses, but in order to give every citizen the power to protect his interests. In other words, with the Old Liberals an extended franchise was meant to be a safeguard, not an engine of oppression. The Old Liberals strove to secure for every man equality of opportunity; the New Liberals are striving to procure equality of conditions. They tell Lazarus, who has been sitting at the rich man's gate, to take his place boldly at the rich man's table. In Australia the New Liberalism has borne its logical fruit. Some years ago, at a meeting in Sydney of the unemployed, one speaker demanded

that the Government should give as a right, not as a favour, six shillings a day and guarantee work for twelve months. He further advised the unemployed not to submit to insults to their independence! On the principles of the New Liberalism there is nothing to prevent the unemployed, if they are in the majority legislatively, dividing the wealth of the country among the masses. The passion for equality when divorced from the passion for justice becomes a potent instrument of national demoralisation. On one occasion when Turgot was asked to confer a benefit on the poor at the cost of the rich, he replied: 'We are sure to go wrong the moment we forget that justice alone can keep the balance true among all rights and interests.' France forgot that, and went terribly wrong. The Liberal party of the present day is in danger of making the same fatal mistake.

To Mr. Spencer belongs the credit of bridging the gulf between the two views. Agreeing with Hobbes and Bentham that government is a necessity, he differs with them as to the origin of that necessity. Where Hobbes, Bentham, and Rousseau make happiness the motive of legislation, Spencer makes it the result. According to Spencer the legislation has to do, not with happiness, but with justice. By tracing the social instincts of man to their biological and psychological roots, Spencer shows that the motive power of all progress, organic and super-organic, in

animal and man, is the desire for freedom to develop. Grant this, and the first and indispensable condition of happiness is secured. The practical bearing of these two views of society is far-reaching. If the function of government is directly to produce social happiness, there is no escape from paternal legislation, which in practice leads to the rule of a despotic majority. If on the other hand the function of the government is to maintain the liberty of the individual, so far as he does not encroach upon the like liberty of his fellows, then not only is despotism impossible, but the way is open for the development of all kinds of energies and talents—in short, for the growth of those individual variations which in the social as in the natural world are the real elements of all enduring progress. The two factors, order and progress, which previous thinkers were unable to reconcile, are in the Spencerian theory brought into a union at once philosophically satisfying and politically fruitful.

CHAPTER X

THE ETHICAL EVOLUTION OF SOCIETY

Two things filled the soul of Kant with awe—the starry heavens above and the moral law within. What more natural than that the reflective as well as the unreflective portion of mankind should attribute these marvellously mysterious phenomena to the direct creative act of the Deity? How plausible seemed the primitive theory that God created the heavens and the earth by His Almighty fiat, by the word of His power. For ages the human mind in dealing with the starry heavens clung to the conception of creation. Similarly with the moral sense. Man, it was believed, was created with a keen sense of right and wrong, with a faculty called Conscience, which was described as God's vicegerent in the soul. How was this conception harmonised with the admitted tendency of man to do wrong? Either Conscience spoke with an uncertain voice, or some great anarchic revolution had taken place in the soul of man whereby God's vicegerent was deposed, or Conscience itself was the product of circumstances, man being really at

the mercy of his passions, like a rudderless ship in a stormy sea. The theory of the fall of man held sway in one shape or another for ages. Man, it was believed, was created as perfect as the starry heavens, but by virtue of free will, man had the power of thwarting the design of the Creator; by one act of disobedience man entered upon a career of racial rebellion. Man, it was said, knew the right but preferred the wrong. Conscience reigned but did not govern. With the decay of theological conceptions, the theory of a separate faculty called Conscience, whose function it was to preside over the ethical side of human nature, fell into discredit. Great efforts were made to preserve in metaphysical form the essential idea of the theologic conception. Thinkers who had departed widely from the old supernaturalism still endeavoured to keep alive the idea that man was born with an intuitive sense of right and wrong. Discarding the theological foundation, they made strenuous efforts to make Conscience a fundamental attribute of human nature. Adherents of the intuitive theory of morals were faced with one supreme difficulty—that of accounting for the diverse and contradictory views of morality existing in different ages of the world and among different races of man. On the theological theory these diversities and contradictions were plausibly explained by the fall of man. Discarding the super-

natural view of man, the intuitive thinkers were incapable of bringing these views into harmony with history and experience.

How was the difficulty to be met? If Conscience is not a supernatural germ implanted in man by God, and if the facts of life are incompatible with the intuitive theory of an innate sense of right and wrong, where is the solution of the problem to be found? Another set of thinkers professed to have discovered the key to the problem. They declared that Conscience is not primary but derivative. In their view man's desire for happiness is primary, Conscience being compounded of several elements, notably the element of coercion which follows from the conflict between contending passions in the individual and contending individuals in society. The efforts of the Utilitarians, from Bentham to J. S. Mill, were devoted to the attempt to show how the belief in Conscience, the sense of right and wrong, may be traced to individual experiences of happiness and unhappiness. The Utilitarian school failed in the sphere of ethics, as it failed, as was shown, in the sphere of economic history, by giving undue prominence to conscious reflection as an element in primitive progress. Primitive men did not seek to acquire wealth from conscious motives, nor did they, as Locke believed, draw up a social compact from a deep sense of the benefits of social co-operation. No more did primitive

men make utility the avowed and consciously pursued means of securing the greatest amount of happiness. Primitive man was not, as the Utilitarians assumed, a reasoning and calculating animal. The Evolution theory in the realm of ethics successfully attacked the problem which the Utilitarians found insoluble. So long as morality as a science was viewed from the standpoint of empiric Individualism, Utilitarianism as advocated by Mill had great difficulty in repelling critical attacks. Spencer came to the rescue by substituting the racial for the individual standpoint. As he puts it in his letter to Mill, 'Just in the same way that I believe the intuition of space possessed by any living individual, to have arisen from organised and consolidated experiences of all antecedent individuals who bequeathed to them their slowly-developed nervous organisations—just as I believe this intuition, requiring only to be made definite and complete by personal experiences, has practically become a form of thought, apparently quite independent of experiences; so do I believe that the experiences of utility organised and consolidated through all past generations of the human race, have been producing corresponding nervous modifications, which, by continued transmission and accumulation, have become in us certain faculties of moral intuition—certain emotions to right and wrong conduct, which have no apparent basis in the individual experiences of utility.'

In his highly original work, *The Origin and Growth of the Moral Instinct*, Mr. Alexander Sutherland goes to the root of the failure of Benthamite Utilitarianism, when he says: 'To the individual in actual life, the test as to the rightness of an action is never supplied by a consideration of its usefulness to the race. The true test he finds within himself in his instinct of sympathy. The philosopher is justified in proving that these sympathies have grown up and exist within us in order to minister to the use and preservation of the species, and it thus happens that while morality is founded on sympathy, sympathy is founded on utility. It would be doing a gross injustice to men such as Bentham, Austin, and Mill, to imagine that they were not themselves clear-sighted enough fully to perceive this chain of causation. But they lost their hold of a general assent by suffering the middle link to drop out of view; and the public, which acts rightly, not by reason of any abstract notion of utility, but by the inward impulse of sympathy and duty, has always resented what seemed to be the application of a cold and pragmatical principle to a warm and beautiful sentiment.' Discarding alike the theological theory of man as supernaturally created and endowed with Conscience, and the Utilitarian theory of man as guided by reason and consciously testing right and wrong by experiences of utility, the evolutionist

bases his ethical philosophy on the view of man in his primitive stage as not much removed from the animal, and under the control of desires, passions, and instincts. In his view the ethical evolution of man is co-related with the economic, political, and intellectual evolution of society. Ethical codes are not supernaturally imposed upon mankind, nor are they intellectually elaborated from experiences of utility; they are evolved in the course of man's struggle for existence, and are determined by that struggle in its threefold aspects—the struggle for self-maintenance, family-maintenance, and race-maintenance.

In dealing with economic evolution, the question was as to the material result—increase and distribution of wealth. In dealing with political evolution the question was as to the conditions—that of liberty or despotism—under which the economic forces work. In dealing with ethical evolution we are concerned with the effect of the economic and political evolution on the feelings and sentiments of man, and the reaction of those feelings and sentiments upon society. In this connection it is necessary to recall the words used in a previous chapter in treating of the root-passions of society: 'Whether the habits of an animal shall be solitary or gregarious depends upon the relation between the two most general functions—self-maintenance and race-maintenance.

Those animals which can adequately provide for their own wants lead solitary lives; whereas those which cannot supply their individual wants live and act in concert. Now of all animals man is least fitted to lead a solitary life; some kind of co-operation with his fellows is an indispensable necessity. Here, then, is the germ of sociality.' To this must be now added the remark that in sociality we have the germ of morality. The two things are distinct, though closely related. Sociality may exist without morality, as among the lower animals, but morality cannot exist without sociality. For a true understanding of ethical evolution it is essential to trace the gradual and subtle manner in which sociality shades into morality. In order that we may be able to trace the various stages, it is necessary to have a clear idea of the end which Nature has in view in social evolution. Unless we understand the aim of Nature, no intelligent understanding is possible of the process. The aim of Nature is to favour the existence of those individuals, families, and organised societies that are most successful in maintaining themselves in presence of numerous competitors. We call conduct ethical in the highest sense which consciously furthers the efficiency of the individual, the species, and the social state. In no existing society has this ideal been realised, but we must keep this ideal in view if we wish to trace the various stages in the ethical process.

Manifestly such a process would be impossible, were it not for the element of sociality. Those very passions which stamp man as a selfish animal contain the germ of sympathy which in higher civilisations blossoms into altruism and all the virtues and graces which adorn humanity. Adam Smith was right in making sympathy the basis of morals, but in the absence of knowledge it was impossible for him to analyse sympathy, which is a complex quality, into its simpler social elements. How does sympathy evolve from the rude selfish passions of primitive man? Sympathy develops out of sociality, to which primitive man is driven like the animal by his passions and necessities. Primitive man is not a conscious co-worker with Nature; he is carried on by forces over which he has no control, the tendency of which he cannot detect, and the aim of which he cannot understand. The rate at which sympathy develops is the measure of ethical evolution. Sympathy is the root of all the virtues.

On the ethical side, the struggle which is everywhere found in Nature resolves itself into a struggle between the selfish and sympathetic sides of human nature. Other things being equal, Nature favours the sympathetic man at the expense of the unsympathetic; the family and tribe bound together by sympathy are more than a match for families and tribes which are torn by internal dissensions, and in which individual selfishness reigns supreme.

So important are the sympathetic instincts that we can detect in the animal world the beginning of the great ethical evolution which in mankind has reached such an advanced stage. In the earlier stages of animal life, Nature secures the perpetuation of species by means of an extraordinary individual fertility. Among fishes the average mother deposits more than 600,000 spawn, out of which perhaps one or two remain to maintain the existence of the species. Nature scatters the germs of life with prodigious prodigality, so as to make sure that in the midst of the prodigious destruction a few of the germs will be saved. Under such conditions, where there is no parental care, sociality is impossible. This stage, which may be called that of competitive fertility, gives place to another stage, that where success in the struggle for existence is determined by higher nerve organisation, and increased brain power and intelligence. Mr. John Fiske has demonstrated conclusively that one result of increase in nerve and brain organisation is prolongation of infancy. Thus we find in the more highly-organised animals a close connection between parent and young. The period of helplessness draws forth the emotional power of the parents, and among the higher class of animals we detect features of conduct quite human, as when the mother monkey rushes with her young to a hiding-place and then turns and faces death with a sense

of satisfaction. Through the animal world the strength of the sympathetic instincts are in direct relation to the period of infancy, which again is determined by the slowness with which the complex nervous system and brain evolve.

When we come to primitive man the process becomes distinctly traceable. To make this plain, it is necessary to bear in mind the description in a previous chapter of primitive man from the purely economic side. 'Primitive man was a creature of appetites and instincts, controlled by rigorous necessities. Marriage was unknown; the social bond weak and uncertain; life resolved itself into a bitter struggle for existence among discordant units. . . . However crude and unsatisfactory the affection between mother and child in primitive times, it must have been kept alive and increased during the period of infancy.' The family is the ethical unit as it is the economic and political unit. In treating of biological evolution, it was seen that environment is the controlling cause. Unless an animal can adapt itself to its environment, unless its structure and functions are in harmony with its surrounding, it must perish. It is the same with emotions and sentiments. Called forth by the environment, they are determined in their nature and force by the environment. Now, what is the environment which confronts the family as the ethical unit? The environment is no other than

other families whose attitude is that of chronic hostility. Inside the family circle certain narrow, rude, but powerful sentiments hold sway—such as paternal and fraternal sympathy, courage, self-sacrifice, and the martial virtues generally. But there comes a time when, for purposes of protection, families join to families, and the clan is formed. This extension of the environment leads to extension of the sympathies, which, no longer confined to the family circle, embrace all who are associated together in defence of the clan. With the extension of sympathy inside the clan area, there still exists a feeling of hostility to all outside. The feeling of clannishness is greatly deepened by religion, by bringing into operation the sanction of departed chiefs, and by the commands issued by living chiefs, whose governments become increasingly despotic with the increase of hostile relations with tribal enemies. Along with the military regime there evolves an appropriate ethical code. The finer and tenderer virtues can have no place in a state of society in which war is the dominating form of activity, where industry is left to slaves, and where cannibalism and infanticide are recognised features of the national life. In the military regime the sympathetic qualities of human nature, fostered by family life and man's need for social co-operation, are arrested, and the few virtues which war calls into exercise are of a hard, imperious, and loveless

type. How potent war is in arresting ethical evolution is shown by the fact that in all the ancient civilisations, from the barbaric empires of the East to the comparative civilisations of Greece and Rome, no room was found for the specifically Christian virtues of gentleness, charity, mercy, benevolence, and forgiveness. Morality is not the root but the fruit of civilisation, and hence in a national life based on antagonism to other national lives, those peculiarly civilised virtues which we identify with love of humanity as such could not possibly blossom.

In Greece and Rome, in the minds of a few philosophers, there dawned the idea of an environment beyond the confines of the tribe, the nation, and the empire. Thanks to the world-wide conquests of Rome, the idea of a humanity beyond racial boundaries began to dawn upon the mind of philosophers, but at best the feeling was more sentimental than real. Socrates spoke of himself as a citizen of the world, and Roman Jurists were familiar with the idea of a humanity resting, not upon blood relationships and national privileges, but on natural rights. The Founder of Christianity gave this idea vivid and practical form when He boldly declared for the brotherhood of man on the basis of one Father in Heaven. Evolutionists have not done justice to the great impetus given to the evolutionary process by the Founder of Christianity.

Enamoured of massive generalisations, students of evolution have sometimes under-estimated the immense power in history of great personalities, who, by unlocking new forces in human nature, have frequently done more than general causes to modify the course of civilisation. Unhappily personal influences tend to be transient, and thus it has happened that the pacific creed of the Founder of Christianity gradually was pressed into the service of war, and ended, in the Middle Ages, in contracting the idea of human brotherhood till it became synonymous with a theological conception narrower even than the tribal conception with its dogma of destruction to all outside the pale. Christianity on the ethical side failed because the ideas of its Founder were in advance of the time. The Sermon on the Mount came into conflict with the ethical ideas of the military regime, which lasted till the economic revolution produced by the doctrine of Free Trade. In fact the military regime is not yet extinct, as may be seen by the revival of Protection theories in our day, accompanied by the increase of armaments as a condition of increased trade and commerce.

Still the economic doctrine of Adam Smith is destined to have incalculable influence upon ethical evolution. The relation of the doctrine of Free Trade to ethics is thus stated in my book on Adam Smith:—'At the first blush it would seem as if,

from the Darwinian point of view, Nature was given over to universal warfare. In *In Memoriam* Tennyson has given fit poetic expression to the sombre, not to say gloomy, thoughts which force themselves upon the cultured observer of Nature. Now it is usually forgotten that in order to emphasise the rationality of his view of the origin of the marvellous variety and complexity of species, it was necessary for Darwin to call special attention to the struggle for existence and its prime cause, namely, the tendency of population to outrun the means of subsistence. There are two other tendencies, however, which, as not bearing on his particular problem, Darwin did not specify, but which must be taken into account in any philosophical survey of History, namely, the tendency of man, in order to relieve the intensity of the struggle for existence, to unite with his fellows, and the tendency of man towards increasing intelligence by which he can increase the productive power of nature, thereby checking the fierce struggle which in the animal world goes on between population and subsistence. See how these two tendencies give to human evolution the quality of hopefulness. The fierce struggle for existence, which among animals leads to warfare, among men has the same result in the earlier days of primitive life. But by virtue of dawning intelligence and the germs of co-operation developed in family life men discover

the advantages of union. Whereas animals fight one another for food which is more or less scarce, men by co-operative methods begin to grow food, thereby increasing the productive power of nature. In order to facilitate the process comes division of labour, which leads to barter; and thus, instead of a fierce struggle for existence between isolated individuals, we have the beginning of a new method, that of co-operative assistance in the struggle for existence, and for result great increase in the total means of subsistence, and great increase in the individual share. The individual who co-operates with his fellows may not get all he would like, but he gets infinitely more than if he had earned his livelihood in solitary fashion.'

Troublous times lie before us ere modern statesmen incorporate into their foreign policy the great truth which Adam Smith taught, namely, that all human interests are harmonious. Mankind does not seem yet advanced enough ethically to make the passage from nationalism to internationalism in pacific fashion. On the path of civilisation there are great stages—tribal, national, and international. The state of hostility, as we have seen, is the normal state of the race in early times. Outside of the tribe all is hatred, revenge, and bloodshed. The necessities of life compel kindred tribes to amalgamate. Towards those tribes which remain outside the union a policy of hostility is still pursued. An-

other step is taken when the tribes amalgamate over a still larger area, and the nation evolves. Within the national area we find reciprocity of interests taking the place of the old idea of antagonism of interests: the descendants of the old Highland clans live and work peacefully with one another, whereas their ancestors lived in a state of feud. What brought about this change? The necessities of life have taught the descendants of the old fighting clansmen the truth that peaceful co-operation is more profitable and pleasurable than the old regime of hostility. If the student desires to see how the tribal stage merges into the national, through the gradual substitution of co-operation for hostility, he has only to peruse Guizot's book on civilisation, where the process is traced in impressive panoramic fashion. The nineteenth century has borne the greatest share in the work of nation-creation. Out of the chaos of conflicting interests have been evolved the various harmonies which give to the respective nationalities a common unity. The course of national evolution has reached its natural end, and the energies of the various peoples are seeking international outlets. The scramble in China, the race for territory in South Africa, the expansion of Britain in Egypt, what are all these but evidence of the fact that civilisation is beginning to overflow its old boundaries, and is becoming world-wide in its aspirations? It is a

suggestive fact that humanity has always been under the delusion that war is a necessary factor at each evolutionary stage. We have had tribal wars and national wars, and now we have a widespread belief that international interests are so antagonistic that war is unavoidable. Thus we find influential public men so saturated with the idea of the necessity of war that the national resources are spent enthusiastically in increasing warlike armaments, and speeches are made by prominent leaders with the object of stirring up the war spirit of the nation. One day we are on the eve of war with Russia in China, another day we are all but in the death-grips with France in the Soudan, and at some future day we may find ourselves in conflict with America over the Open Door. The doctrine of Adam Smith and Richard Cobden is treated as an exploded superstition. But the time is coming when its principles will be found to have deep international significance. What Cobden saw with clear and unerring vision was that Free Trade, which, as was seen in the abolition of the Corn Laws, broke down the monopoly of landowners to the advantage of the consumer, would, when logically developed, break down national monopolies in the interest of humanity as such, apart from purely national distinctions. And thus, by substituting reciprocity of interests for antagonism of interests, Free Trade would render huge armaments as needless between nations

as hostile tariffs. Free Trade, according to Cobden, was something more than a bringer of cheap food to the people: it was the application of the moral law to international affairs by the simple process of making the interest of consumers all over the world consist in peaceful industry and the free spontaneous exchange of the products of their labour for the common good. Not only is Cobdenism the practical application to industry of the ethics of Christianity from the side of economics, but it is also a potent factor in the development of humanity on historic lines as interpreted by the Evolution philosophy. The future of civilisation depends upon the success with which statesmen grasp the fact that humanity is drawing a stage nearer the realisation of the ideal of poets and prophets, the ideal of universal felicity through comradeship resting on the basis of reciprocity of interests.

Human history, beginning with a sordid struggle for existence and an ethical code steeped in blood, ends with a harmonious civilisation resting upon the all-embracing conception of human brotherhood. Man and society, no longer at war, are destined to form one harmonious whole on the basis of reciprocity of service. With the magic wands of Reason, Science, and Industry, man on the basis of an egoism which is gradually being transfigured by sympathy, will yet lay the foundation of a new social order, in which peace, not strife, shall reign. Above the din

of conflicting interests and warring passions may be heard, by those who listen in the spirit of evolutionary science, the inspiring tones of the humanitarian evangel—Peace on earth, and goodwill among men.

To those who have been accustomed to look at man and society from the old point of view, this theory of ethical development will be sufficiently startling. But if the Spencerian theory is true, there is no escape from the conclusion that morality is a natural product of social evolution. It is the consequence rather than the cause of progress. No doubt as society advances the effect in turn becomes a cause. In a higher state of civilisation morality is pursued as its own end. Like art and knowledge, morality becomes detached from utility, and is pursued for its own sake. From the realities of life ideals emerge. The artistic genius, enamoured of his ideals, pursues them without regard to immediate utility. The philosopher, consumed with a passion for knowledge, sets at naught the attractions of the market-place: he follows Truth though the heavens fall. So, too, with the devotee of goodness. His mind responds intuitively to high and noble deeds, and his soul quivers with a subdued delight at the thought of virtue. In him the experiences of the race have become organic instincts; he thinks not of happiness—he soars into the ampler air of virtue. The good man is not good because of the connection

between happiness and goodness; he is good because, thanks to the triumph of morality in the long ancestral past, his whole being is responsive to disinterested motives, and thrills with altruistic fervour. Such men increase the social fund of morality, and become in their turn potent causes in social development. In our devotion to general causes, let us not forget the part played in evolution by those rare beings who, by the purity of their lives and the magnetism of their natures, tune the souls of their fellows to noble issues. As I have expressed it elsewhere, pleasures and pains are the fundamental elements of life, but they are no more to be identified with the ethical fruits of civilisation than the rose-bush and its fragrance with the soil at its roots. By means of the subtle chemistry of Sympathy man purifies the passions of human nature, and by pressing them into the service of the ideal, invests them with an ethical purpose which, when incarnated in the moral pioneers of the race, becomes fragrant of the divine.

CHAPTER XI

THE EVOLUTION OF RELIGION

WHAT of religion? Is it also a natural product of the great evolutionary process? Here we enter upon a thorny path. The evolutionist who seeks to give a natural account of religion has to reckon at the outset with the two antagonists with whom he was confronted in the ethical arena—the Supernaturalist and the Intuitionalist. The Supernaturalist's conception of religion follows naturally from his conception of man and his origin. Grant the truth of the biblical account of man's creation, probation, and fall, and a highly plausible theory is provided of man's religious history. In man's original relation to the Creator we have an explanation of the religious sentiment; and the fall of man abundantly accounts for the existence of evil which, like a malevolent being, has ever dogged the footsteps of humanity.

So true does this theory seem to be to human experience, that for centuries it did not occur to thinkers to doubt the authenticity of the biblical

record. Belief in the record was strengthened when the Old Testament was bound up with the history and fortunes of the Jews. Spinoza, in this as in much else centuries ahead of his time, threw doubt upon the biblical record; and since his day, especially within the last fifty years, the attitude of thinkers, even within the Church, has undergone an entire change. By admitting the presence in the Bible of large slices of legendary matter, the Higher Critics have knocked away the foundation of the orthodox theory of religion. Relegate to the region of myth the supernatural creation of man and his disobedience, and at once the mind is prepared for the reception of the evolution theory of the rise of man. Human misery and wretchedness, no longer the result of Divine displeasure, become the natural consequences of man's unequal contest with his environment. Religion, like ethics, is seen to be determined by the struggle for existence—is, in short, the intellectual and emotional reflection of that struggle.

The Intuitionalists, while admitting the breakdown of the supernatural theory, refuse to subscribe to the view that the religious sentiment has no immovable subjective roots. Many Intuitionalists opposed supernaturalism on the ground that it failed to place religion on a rational basis. Rejecting the dogmas of the fall and original sin, the Intuitionalists of the eighteenth and nineteenth centuries

fell back upon a supposed natural religion. Great as are the differences between the Deists of the last century and the Theists of to-day as represented by the late Dr. Martineau, they agree in holding that man is endowed with the capacity of forming enlightened views of Deity, and of rising by a process of intuition to a knowledge of, and communion with, Deity. In their view, supernaturalism as held in the Established Churches is a deformation of natural religion. In order to free religion from its supernatural corruptions, Lord Herbert published his famous treatise, in which he laboured to show that Reason when interrogated on rational principles testified to the universality of belief in God, moral worship, and a future recompense. These truths, according to Lord Herbert, shone full upon primitive man till obscured by the fraud and deception of priests. The same idea prompted Locke in his work on *The Reasonableness of Christianity*. Christianity, in so far as it was a supernatural system, was simply the republication of Natural Religion. 'Christianity in this view has introduced nothing new; it only brought the original true religion of reason again to light, by removing the false additions to it; but it soon again fell under the same fate of superstitious distortion by mysterious dogmas.' As regards their fundamental positions, John Locke and James Martineau were at one.

In the sphere of religion, as in philosophy, David Hume proved a destructive force. He combated the idea of intuitive religious ideas, just as he combated the belief in intuitive intellectual conceptions. In regard to religion, Hume went beyond mere theorising; he justified his attack upon religious Intuitionalism by his work *The Natural History of Religion*. In that work we have a precursor of the evolutionary theory as applied to religion. According to Hume, religion has its roots not in the reason but in the passions. Primitive man was not prompted to worship, as the Deists held, by feelings of gratitude, wonder, and awe, aroused by calm contemplation of the works of Nature. Hume clearly saw that the faculty of contemplation, and the feelings of gratitude, wonder, and awe, were products of a high state of civilisation, and could not exist in primitive man, who was really at the mercy of his passions and his imagination. In that case Monotheism was not the oldest form of religion. The monotheistic conception demanded a higher type of intellect than early man possessed. Man's early religion, according to Hume, was not monotheistic but fetichistic. Ignorance of the forces of Nature drove primitive man to personify them, to clothe them with his own qualities greatly enlarged. In a word, man created God in his own image.

In the absence of definite knowledge of primitive

man, Hume's sketch of the origin and development of religion is largely speculative; but his main position, that religion takes its rise in the passions rather than the reason, is amply justified by the Evolution philosophy. Primitive man was not religious because he was a reasoning contemplative being; he was driven to religion through ignorance and fear. From one point of view, indeed, religion is just another name for primitive man's theory of the world and of his relation to it—a theory, observe, directly suggested to him by his contest with his environment. Just as primitive man's economic, political, and ethical ideals were determined by his environment, so his religious ideals had a like origin. To primitive man the environment was in the main hostile. Nature was as unfriendly as neighbouring tribes. Ignorant of the laws and forces around him, primitive man must have lived in terror. How could he explain those forces except on the supposition that somehow or other they were manifestations of intelligences akin to the human, though vastly transcending it in power. What was the attitude of primitive man to those overwhelming nature-forces? Clearly the same in kind, though greatly differing in degree, as the attitude of man to a formidable tribesman, chief, or king, namely, the attitude of abject submission showing itself in conduct of a propitiatory kind. Out of this grew all those rites and ceremonies whose object was to

ward off the anger and obtain the favour of the god.

How did primitive man conceive the mysterious power or powers which wielded the forces of nature? According to Mr. Spencer, the gods were deified ancestors, and the earliest form of the religious sentiment was ancestor-worship. In his admirable little book, *The Idea of God*, Mr. John Fiske thus describes the Spencerian view of the origin of religion:—'It was in accordance with this primitive theory of things that the earliest form of religious worship was developed. In all races of men, so far as can be determined, this was the worship of ancestors. The other self of the dead chieftain continued after death to watch over the interests of the tribe, to defend it against the attack of enemies, to reward brave warriors, and to punish traitors and cowards. His favour must be propitiated with ceremonies like those in which a subject does homage to a living ruler. If offended by neglect or irreverent treatment, defeat in battle, damage by flood or fire, visitations of famine or pestilence were interpreted as marks of his anger.' Ancestor-worship when reduced to its psychological root is found to rest upon primitive man's conceptions of a double personality. By means of it dreams, swoons, trances, are explained. What happens in sleep and unconsciousness? The hypothesis of the *other self* explains the savage's wanderings during sleep,

and accounts for the presence in his dreams of parents, comrades, or enemies known to be dead and buried. In swoons and trances the other self is believed to be temporarily absent from the body; and at death the soul is believed to have gone to the ghost-world. It still exercises influence upon its old environment—friendly or hostile according to its relations with its former associates. In the case of a departed chief two feelings spring up among the members of the tribe—desire to do him honour, and a desire to secure his favour. Out of this spring sacred places. His tomb grows into a temple, the tomb itself becomes an altar upon which provisions are placed—a custom which is the germ of religious oblations and festivals. Closely connected with this are propitiatory sacrifices as a means of securing the favour and support of the god in battle.

By what process does ancestor-worship, with its few simple ceremonies, grow into Polytheism and Monotheism with their complex institutions, priesthoods, and ritual? Religious like ethical sentiments and ideas are determined by economic necessities and political structures. The expansion of the family into the tribe, and the tribe into the kingdom, leads to an expansion of the religious idea. Here, as in the economic and political spheres, war has great influence in moulding the ideas and sentiments of primitive man. In the words of Mr. Spencer:

'The overrunnings of tribe by tribe and nation by nation, which have been everywhere and always going on, have necessarily tended to impose one cult upon another. Not destroying the worship of the conquered, the conquerors bring in their own worships—either carrying them on among themselves only, or making the conquered join in them.' In either case the result is a multiplication of deities, priests, creeds, and rituals. The monotheistic idea does not evolve till one people either by superiority triumphs over all rivals, or where circumstances, as in the case of the Jews, render the worship of the tribal deity of such a fanatical and exclusive nature that no amount of military pressure can bring them to adopt the religion and worship the gods of the conquered.

One important fact to be noted in the evolution of religion is that the characters of the deities are also determined by the economic environment of the tribe. Where war is viewed as the natural method of tribal and national expansion, the deity is represented as favouring the warlike sentiments. The gods of militarism demand human sacrifice, take delight in scenes of cruelty, authorise—as in the Old Testament—the wholesale slaughter of men, women, and children. No greater evidence that the God of the Jews, and of Christianity, is a product of evolution could be had than the following, from Deuteronomy xx. 10-18:—'And if it (the city) will

make no peace with thee, but will make war against thee, then thou shalt besiege it: and when the Lord thy God hath delivered it into thine hands, thou shalt smite every male thereof with the edge of the sword. . . . But of the cities of these people, which the Lord thy God doth give thee for an inheritance, thou shalt save alive nothing that breatheth; but thou shalt utterly destroy them.' How true is it that man creates God in his own image!

Highly suggestive is the fact that with the change from militarism to industrialism the character of the Deity also undergoes a change. Since mankind grasped the truth that national prosperity was better secured by industry than by war, two important results followed: the laws of Nature began to be studied, and encouragement was given to the industrial virtues, which favoured peaceful co-operation, as opposed to the militant virtues, which made for strife. It was no coincidence that Christianity sprang up during a time when the world was at peace. The conception of the Deity under the figure of a Father filled with love and compassion, who showered his gifts alike on the just and the unjust, could not possibly have arisen during a time of tribal or national warfare. It was no coincidence either that the sweet and winsome gospel of Jesus of Nazareth was transformed during the turmoil of the Middle Ages into a gospel of hate, and promulgated by means of the thumbscrew, the

rack, the sword, and the scaffold. Nor is it a coincidence that to-day, when the war spirit is rampant, the clergy should be declaring that the Sermon on the Mount is impracticable, and that the powder-cart is a more potent factor in spreading civilisation than the Cross of Christ. So long as nations act upon the belief that the prosperity of the one can only be had through the impoverishment of others, so long will they view war as a necessary factor in civilisation, and so long will the clergy worship, not the All-Pitiful Father of Jesus Christ, but the bellicose tribal deity of the Jews.

In another way Industrialism strikes at the root of supernaturalism—by the rapidity with which it seizes and popularises the conception of law. The primitive theory of the Universe rests upon the idea of the miraculous. Truth was sought not by observation but by divination; prosperity was the result not of industry but of war, tempered with faith in the god of battles; disease was not the result of breach of Nature's laws, but of spiritual possession. In such an atmosphere Industrialism could not possibly thrive; and accordingly we find that when man began to turn his attention to pacific industry, study of Nature took the place of fantastic theorisings about extra-mundane existences, and activities which previously were lost in the quicksands of superstition were turned in the fruitful direction of intellectual progress and social amelioration. There is a striking connection

between the decline of the theological spirit and the rise of the humanitarian spirit. In its early days Theology embraced in its sweep all phases of human activity—Politics, Industry, Art, Science, and Philosophy. The result was the stagnation of the human intellect and the hardening of the human heart. Even at its best the theological ideal as it affects society cannot compare with the humanitarian ideal. It is far more important, as Diderot has remarked, to work for the prevention of misery than to multiply places of refuge for the miserable.

The place hitherto occupied by Theology will henceforth be taken by Science. The religious sentiments will no longer be under the guidance of a theory of life which, under all its transformations, is identical at root with the ancestor-worship of primitive man. Science will increase rather than diminish the feelings of wonder, awe, and humility, which are the real roots of religious emotion, and so long as this is the case, man need not fear that with the decay of Theology a blight will fall upon the earth. The religious sentiment, so long distorted by Theology, is made up of two distinct feelings—a feeling of relationship with Nature, as expressed by Wordsworth, which the Evolution philosophy has greatly intensified, and a deep sense of the unity, trustworthiness, and beneficence of the great cosmic forces. Now as of old it is true that underneath the righteous are the everlasting arms.

CHAPTER XII

THE PHILOSOPHIC ASPECT OF SPENCERISM

So far, the Spencerian theory has been presented on the purely scientific side as a philosophy of the Cosmos. In dealing with the knowable, Mr. Spencer's great aim has been to frame into one all-comprehensive generalisation the separate generalisations of Science; in other words, to trace from star to soul the working of one universal evolutionary process, scientifically interpretable in terms of Force. For purposes of convenience, phenomena are divided into astronomic, geologic, biologic, psychologic, and sociologic, but through these divisions one process holds sway. While the Cosmos as a whole is evolving from simplicity to complexity, by successive integrations and differentiations, the parts are also subject to the same law of evolution. 'So understood,' says Mr. Spencer, 'evolution becomes not one in principle only, but in fact.' But man is not satisfied with positive knowledge. For practical purposes science suffices, but no sooner has the philosophic mind brought phenomena within the

sweep of mechanical explanations, than it discovers that Force, which is the last word of science, is far from being the last word of philosophy. To the philosopher, Force is but a symbol; atoms and energies have only relative validity. What is the nature of that Reality of which Force is a symbol? The Spencerian answer to that question in no way affects the great evolutionary generalisation as expounded in previous chapters. As remarked in an earlier portion of this book, 'Spencerism stands on its merits as the philosophy of the knowable, and the only organised body of thought which has its roots in experience, and is a guide to the understanding of life theoretically and practically.'

Apart from practical life, science has great intellectual and emotional bearings. Deeper than purely mechanical interpretations of Nature lie fundamental questions of thought and being. So long as man is endowed with intelligence, he will never cease from attempts to solve the great Sphinx riddle of existence. Generation after generation of storm-tossed thinkers have sighed in vain for a glimpse of the haven of intellectual and emotional rest. Oppressed by a sense of the unfathomable mystery of life, deeply reflective natures, with Job-like sadness, have been prostrated in the dust by a feeling of mental helplessness and moral perplexity. Undismayed by the failure of philosophers and religionists from Plato to Hegel,

and from Job to Newman, men to-day are as busy as ever in their attempts to find an answer to the riddle of the Sphinx. Behind phenomena with their fleetingness, is there a permanent Power, and, if so, can we discover its nature? Can we ascribe to it personality? Can science, as interpreted by philosophy, throw some light upon the great and fundamental question of purpose? Have the vast cosmical transformations which science reveals a definite significance? Is humanity, in the words of Mr. Fiske, a mere local incident in an endless series of aimless cosmical changes? What answer has the Spencerian philosophy to give to these questions? In philosophy as in science the starting-point of inquiry is self-consciousness. The evolution of consciousness has been traced by Mr. Spencer from its earliest dim manifestations in animal life to its highest manifestations as cultured intelligence. Here the task of the scientific evolutionist ends; but the philosophic evolutionist must proceed further; he has to determine, if possible, the nature and limits of intelligence. Is the mind of man rigidly confined to the world of positive verifiable fact, or does it possess capacities which link it to an extramundane existence?

Philosophy is rooted in Psychology. The central question upon which all other questions rest is this: What is the nature of Knowledge? Upon Epistemology rest Cosmology and Ontology. It is useless

to endeavour to discover the real significance of the World and Being until we discover the nature and limits of Knowledge. In differences of psychological theory, all differences among philosophers take their rise. What, then, is Mr. Spencer's psychological theory viewed from the standpoint of philosophy? The answer to the questions: How do we know? How does Knowledge develop? has already been given in the chapter dealing with the Evolution of Mind. The question now is: What is the nature and limitation of Knowledge? The answer to this is involved in the reply to this further question: What do we know? To this the Spencerian reply is: We know things in their relations. This view is summed up in the phrase Relativity of Knowledge. Even since Hume's rigorous and somewhat sceptical analysis of mind, the idea of the relativity of human knowledge has held an important place in philosophical discussions. Kant, whose aim was to overthrow Hume's Empiricism, placed the doctrine of Relativity in a stronger position than ever by his artificial theory of the categories of knowledge. In his famous essay, Sir William Hamilton made the relativity of knowledge the basis of his attack on the Absolute of German philosophers. 'We think in relation,' said Hamilton, 'and therefore by the very nature of the mind we are debarred from knowledge of the unrelated, the Absolute.' Mr. Spencer has elaborated and strengthened the

Hamiltonian position by a careful analysis of the nature and the development of intelligence. If, as Mr. Spencer shows, all knowledge is classifying, obviously our knowledge of one thing is impossible, except through a knowledge of other things. 'A thing is perfectly known only when it is in all respects like certain things previously observed; in proportion to the number of respects in which it is unlike them is the extent to which it is unknown; and hence, when it has absolutely no attribute in common with anything else, it must be absolutely beyond the bounds of knowledge.'

The doctrine of Relativity is so abundantly in harmony with science, that it might be left to stand without further elaboration, were it not that it has been vigorously attacked in recent years by the Hegelian school of philosophers. Instead of dwelling, with Mr. Spencer, on the inherent relativity of intelligence, it may be desirable to look at the subject from a different point of view. Not only do we think in relation, but Nature itself is one huge mass of relativity. In dealing with Nature, we deal not with inherent substances but with bundles of relations. The impression which the observer first forms of Nature is, that it is composed of numerous independent passive substances which are energised by independent forces. Of the actual existence of Matter as an independent substance, the observer entertains no doubt. Matter is supposed to exist in

three forms—solid, liquid, and gaseous—each with its different properties, to which the individuality of objects is supposed to be due. The atomic theory is based upon the idea of Matter as made up of substances incomprehensively small, to whose properties and combinations the complexity of the Cosmos is due. Let us examine the so-called properties of atoms. That hardness is a property of the atom is not doubted by the man of science. But what is hardness? It is not a property at all—it is a relation. Hardness is simply the measure of the 'resistance offered to the separation of molecules from one another.' Obviously, there is no sense in talking of hardness in a single atom. Again, we cannot conceive of atoms apart from colour of some kind. But what is colour? Is it a property of matter? Colour is not a property of matter; it is due to certain vibratory motions in the atoms, and is related to the rate of energy. If all substances were at absolute zero in temperature, there would be no vibratory motions, and consequently no colour. Substance itself would be invisible. The same holds good of inertia, mass, heat—the primary as well as the secondary properties—which are no longer viewed as properties but as conditions of matter. Matter is not a thing but a state, and except in relation has no existence. No force in Nature can be isolated from other forces. As has been said, 'What we call solids, liquids, and gases, with all the

laws that belong to each of them, are simply the relations of heat-energy to groups of atoms, not the properties or laws that may be asserted of atoms as such.' Nature resolves itself into a scene of unvarying activity, and what appear to us to be distinct existences, isolated and independent, are really relative conditions of that activity. For this view of Nature we are indebted to the theory of the conservation and transformation of Forces—which on the philosophic side rests on the view that Nature is not an assemblage of existences, but a bundle of forces whose existences are known to us by the relative states in which they manifest themselves. Helmholtz expresses the dynamic conception of Nature when he says, 'Every property or quality of a thing is in reality nothing but its capability of producing certain effects on other things.' Stallo, in his book *Concepts of Modern Physics*, sums up the new view which has emerged from the doctrine of the conservation and transformation of Forces as follows: 'The real existence of things is co-extensive with their qualitative and quantitative determinations, and both are in their nature relations, quality resulting from mutual action, and quantity being simply a ratio between terms neither of which is absolute. Every objectively real thing is thus a term in a numberless series of mutual implications, and forms of reality beyond these implications are as unknown to experience as to thought. There is no absolute

material quality, no absolute material substance, no absolutely physical unit, no absolutely simple physical entity, no absolute physical constant, no absolute standard, either of quantity or quality. There is no form of material existence which is either its own support or its own measure, and which abides either quantitatively or qualitatively otherwise than in perpetual change in an unceasing flow of mutations.' And thus what Mr. Spencer finds to be true of mind, that it works on the principle of Relativity, science also finds to be true of the Cosmos, where Relativity reigns supreme.

How do the Hegelians get their Absolute? They quarrelled with Hamilton for making the Absolute equivalent to pure identity, an abstraction of the intellect, an absolute unit which the Hegelians have no difficulty in showing cannot possibly exist. The quarrel of the Hegelians with Hamilton and Spencer is that they identify the Absolute with something out of relation, and then declare that the Absolute is unknowable because they have placed it outside the arena of knowledge. The Absolute as the negation of all relation is an absurdity—it cannot be known, because if it exists it exists out of relation to thought. How, then, do the Hegelians conceive the Absolute? Not as the negation of relations, but as the unification of relations. With Hegel the Absolute is not a barren identity, a sterile unity, but a unity reached through differences. The Absolute,

according to Hegel, is an identity which manifests itself through distinctions. Now what, after all, is Hegel's Absolute but simply another name for the totality of cosmic relations? Hegel does not place the Absolute on one side and the Relative on the other. Viewing the Universe as a whole, and combining in thought process and product, he calls the result the Absolute. His system rests upon the relativity of thought and being, but by laying hold of the ideas of reciprocity and development, and looking at the process in its totality, Hegel makes Nature an absolute unity manifesting itself in perpetual differences. Hegel's system differs from Materialism simply in making logic instead of matter, the idea instead of the atom, the starting-point. Strip Hegelism of its misty phraseology, and its Absolute is no other than the Relative with its roots in human experience and human thought. As against Hamilton's notion of the Absolute, Hegel's polemic was highly effective; but reduced to its ultimate analysis, his Absolute differs in no essential from Spencer's doctrine of Relativity. Where Spencer contents himself with tracing the evolution and defining the limits of self-consciousness, Hegel deifies the logical process and calls it God.

If, then, we can only know things in their relations, the question immediately emerges—What do we know of things? How does the world stand related to our consciousness? Is the material world

really what it seems? A partial answer has been given by the insight which is obtained of the Universe when discussing the relativity of knowledge. The world is not what it seems, an assemblage of independent things composed of substances with their respective properties. The multiform energies of Nature are reducible to one form of activity protean in its manifestations. The phenomena of Nature are due not to the combined action of numerous agents endowed with substance and acted upon by powers, but to the ceaseless transformations of Force or Energy. As James Hinton expresses it in one of his suggestive chapters on Nature: 'We are obliged to think of the forces as one, because, in fact, they will not remain distinct. We cannot practically isolate any one of them, except for some special and temporary purpose: it is constantly escaping from us and passing off into other forms. Motion resolves itself in sound and heat; heat flies off in motion, in chemical or electric change; electricity is lost in sparks of light, in magnetism, in mechanical disruptions, in the production of chemical power; chemical power no sooner acts than it is no more chemical, and must be recognised in explosions, in electric currents, in heat. No force can be permanently retained; if we need to preserve any one, we must perpetually generate it afresh. Nor can we isolate any of the forces from the rest in our thought of Nature, any

more than in our operations upon her. To do so would be for the intellect to choose unreason; to create disorder where order reigns. We should be perpetually losing our force without reason, and finding it reappear without necessity. We can only follow one, by recognising the essential sameness of them all. . . . Owing to the limited capacity of our senses, which only perceive a few of the multitudinous processes which are really taking place in Nature, we continually lose the chain of her operations. Its links are ever passing out of the sphere of our perception; and, reappearing at a distant spot or point of time, they produce on us the impression of original and disconnected actions. From this cause—from this imperfection of our senses—arose the false conception of the various forces as distinct existences or causes; from this cause it was, that that false conception so long maintained its sway. If our sense had been penetrating enough to follow the entire course of Nature's action, and to recognise it in every shape, that thought never could have arisen. And thus it is that reason sets it aside, by supplementing sense, and teaching us to recognise the existence of that which we cannot see. By tracing the strict chain of causation throughout Nature, it substitutes unvarying activity for imaginary agents. . . . Nor can we better picture the activity of Nature to our minds, than by conceiving it as a vast, even a limit-

less, multitude of vibrations—a rush and whirl, a maze, of actions to and fro; shifting their place, changing their mode, yielding to each other, modified and altered in endless ways; ceasing and recommencing in every quarter; with nothing constant but that the exactness of the balance be maintained.'

Is the conception of Force as the fundamental fact of the Universe philosophically satisfying? Many critics have assumed that Mr. Spencer is a Materialist, because his system is founded upon the persistence of Force, overlooking the fact that Mr. Spencer, when viewing the Cosmos from the side of philosophy, distinctly states that Force is not the ultimate Reality, but simply the symbol of that Reality. To make Force the ultimate Reality would be to do violence to the principle of relativity, which forbids the reduction of the Universe to a unit. Unity and duality are relative conceptions, and therefore all materialistic theories, whether resting upon a static or dynamic conception—the Atomic theory or the theory of Energy—are ruled out of court. Mr. Spencer's theory of the world grows naturally and logically out of his Psychology. True to his doctrine of the relativity of knowledge, Mr. Spencer recognises that Force, though a scientific ultimate, has only a relative value as a philosophic explanation, inasmuch as the idea of Force is derived from our muscular activity. On this point he is quite explicit. In *First*

Principles, at the conclusion of the chapter, 'The Persistence of Force,' Mr. Spencer says: 'But, now, what is the force of which we predicate persistence? It is not the force we are immediately conscious of in our own muscular efforts, for this does not persist. . . . By the persistence of Force, we really mean the persistence of some Cause which transcends our knowledge and conception. In asserting it we assert an Unconditioned Reality, without beginning or end.' Similarly, in the concluding chapter, Mr. Spencer states his position thus: 'Over and over again it has been shown, in various ways, that the deepest truths we can reach are simply statements of the widest uniformities in our experience of the relations of Matter, Motion, and Force—are but symbols of the unknown Reality. A power of which the nature remains for ever inconceivable, and to which no limits in time or space can be imagined, works in us certain effects. . . . The interpretation of all phenomena in terms of Matter, Motion, and Force is nothing more than the reduction of our complex symbols of thought to the simplest symbols; and when the equation has been brought to its lowest terms, the symbols remain symbols still.' What compels us to treat Force, not as the ultimate Reality, but as a symbol? The theory of the relativity of knowledge. In the words of James Hinton: 'Whatever be that secret activity in Nature of which all the "forces" are exhibitions to our senses, we

know one thing respecting it, namely, that it is not force. Force is a sensation of our own, and is no more to be attributed to the objects in connection with which we feel it than are the brightness of a colour or the sweetness of a taste. . . . The feeling from which we derive the idea of force rests upon a consciousness of difficulty, of opposition, of imperfect ability. It arises from resisted effort. In fact, it is our own imperfection we ascribe to Nature when we imagine that our feeling of force truly represents its working.'

The Spencerian philosophical attitude to the great problem is summed up in the concluding words of his 'Ecclesiastical Institutions': 'But one truth must grow ever clearer—the truth that there is an Inscrutable Existence everywhere manifested, to which we can neither find nor conceive beginning or end. Amid the mysteries which become the more mysterious the more they are thought about, there will remain the one absolute certainty that he [the philosopher] is ever in presence of an Infinite and Eternal Energy from which all things proceed.' Thus the Spencerian philosophy shades into religion, and finds expression in the note of interrogation of Zophar, the Naamathite, the friend of Job: 'Canst thou by searching find out God? Canst thou find out the Almighty unto perfection?'

CHAPTER XIII

THE RELIGIOUS ASPECT OF SPENCERISM

THAT the negative attitude of the Spencerian philosophy towards religion should give great dissatisfaction was only what was to be expected. The human mind is not easily reconciled to an attitude of suspense. Theologians challenged the views of Mr. Spencer on historical and religious grounds. They dissented from his evolutionary sketch of religion as originating in ancestor-worship, and they repudiated his conclusion that man's religious conceptions and aspirations are ineffective attempts to solve the insoluble, and have no objective validity. Idealistic philosophers, on the other hand, combated Spencerism on the ground that his religious negativism had its root in a defective psychology. If mind is chained to experience, if the senses are the only inlets of knowledge, there can be no pathway to the supernatural except by miraculous interposition, of which Idealistic philosophers are not enamoured. Clearly, if the super-

natural was to be saved from the blight of negativity, it could only be by a new analysis of the mind in order to discover principles transcending experience. Of course, by this method Christianity as a revealed religion could not hope to be vindicated. Indeed the Idealist philosophers had no wish to come to the rescue of the religion of the churches. Hegelians, as a school, have turned their backs upon popular supernaturalism. Their aim rather has been to give a philosophical basis to Theism as opposed to Agnosticism.

The position of the Idealists has been stated thus: 'There is something more in the world of experience than a mere succession of sense-data. Sense-experience sets the mind to working on its own account, and causes it to deliver itself of truths which are not contained in any of our actual experiences or in all of them together, but which extend over a wider ground than experience can possibly cover.' The theory of innate ideas is no longer held. The new view rather is that the mind is possessed of innate capacities, the power of assimilating and interpreting sense-data. Consciousness, say the Idealists, cannot at once be the product and the interpreter of experience. Self-consciousness, according to the Neo-Kantians, is impossible except on the assumption that in the mind there exists a unifying spiritual principle which, so to speak, sits at the loom of Time and

weaves the isolated unrelated threads of experience into an organised coherent whole.

Have we not here an illustration of the tendency of the mind to which attention has already been called—that of personifying the processes of Nature, of converting the final product into an initial, all-controlling agent? Just as Idealistic biologists explained life-processes by means of an entity called the Vital Force, so Idealistic psychologists postulate an entity called the Self-conscious Principle as the primary agent in converting sense-data into Knowledge. These philosophers fall into their mistake through neglect of the great fact of relativity upon which Nature and Consciousness alike depend. They assume that Mind and Matter exist as separate independent entities, whereas they are simply relative existences. The one apart from the other is unthinkable. We know nothing of Mind apart from Matter, and nothing of Matter apart from Mind. As Professor Seth Pringle Pattison has admirably pointed out: 'The ultimate fact of knowledge is neither pure subject nor pure object, neither a mere sense nor a mere ego, but an ego or subject conscious of sensations. It is not a mere unity, but a unity in duality.' For purposes of analysis philosophers distinguish between the subject and the object, but when they forget that the distinction is purely logical and has no counterpart in Nature, when, in a word, they treat a logical

abstraction as a concrete reality, they are guilty of the scholastic error of constructing the world out of universals. This is exactly the error into which Professor Green fell. Proceeding on the assumption that consciousness is not the result of the action and interaction of matter and mind, but is the work of a single spiritual principle, Professor Green bridges the gulf which separates the human and the divine by identifying this 'Spiritual Principle' with the universal or divine self-consciousness. In his hands human consciousness, which he elevated to the rank of an entity, becomes a reproduction in the human organism of the eternal complete self-consciousness. Thus at one stroke the process of knowledge in the mind is transformed into an agent. By personifying knowledge Professor Green reaches the conception of an eternal Knower who sustains the world, and who reproduces himself in the mind of man.

Let us see to what this attempt to secure a Theistic ground for the universe leads. What support does religion get from the Neo-Kantian and Hegelian attempts to identify human consciousness with an eternal complete self-consciousness? 'From a world of spirits to a supreme Spirit,' says Professor Ward, 'is a possible step.' On this line of advance, Idealists like Green and Ward hope to secure a basis for Natural Theology. The great difficulty which faces Idealism is the problem of personality. The basis of the system is the identity

of the human and the divine self-consciousness. Now human self-consciousness is the product of two factors, the Ego and the Non-Ego. We cannot think of self-consciousness as a unity; it is a unity in duality. It manifests itself through a constant reduction of differences to identity. Can we conceive of a divine self-consciousness working by analogous methods? Manifestly if the two forms of self-consciousness are the same in kind, if the human is a reproduction of the divine, God must be, like man, a thinking, feeling, progressive Intelligence. Hegel saw this difficulty, and boldly represented Deity as the product of evolution! Lotze, who opposed Hegelism, approached the problem from another point, but when he came to deal with the question of divine personality, he was intellectually stranded. Deal with generalities after the fashion of Green and Ward, claim a monopoly of intellectual haziness, and antagonistic views can live in the mind comfortably enough together, but bring them into the daylight of analysis, and the unity of Idealistic Theism is seen to be the unity of a landscape in a fog. How true is this may be seen by the shifts to which Lotze is driven to render intelligible his conception of a divine personality. In his *History of Modern Philosophy*, Dr. Höffding thus discusses the theistic position of Lotze: 'Lotze conceives the world-principle as an Absolute Personality, and he defends the transference of the concept of personality to the

Absolute Being as follows:—The Absolute Being must be personal, because personality alone possesses inner independence and originality, while the concept of personality only finds imperfect realisation in finite beings who are dependent on external conditions. Lotze, it is true, admits that a personal life involves resistance to be overcome and the faculty of suffering and receiving as well as of working. But if it is asked, How can an Absolute Being, subject to no limitations, suffer? Lotze answers that the feeling of the Deity must be set in motion by the inner happenings of its own creative imagination! But it is a great question whether such a self-created opposition can have any serious significance, especially since it can at any moment be destroyed at will. Personalities, as we know them, at least have to fight against barriers which are neither self-created nor easily set aside; the analogy on which Lotze builds, therefore, seems to break down at the critical point. Moreover, according to the most probable interpretation of his confused and hesitating utterances on the subject, Lotze diverges from Weisse in holding that the form of time is not applicable to the Absolute Being; a personal being which does not develop in time, a timeless life and a timeless suffering and working—these are concepts which make too great demands on our power of drawing analogies!'

The attempt to rise from the human self-conscious-

ness to a divine self-consciousness by means of the principle of psychological identity lands us in bewildering contradictions. Abolish the idea of an environment and you abolish the exciting cause of man's psychical nature—his reason, his feelings, his will. But for God the Uncreated, the Eternal, there can be no environment, and consequently there can be no need for what is understood by reason, feeling, and will, which are all marks of imperfection, and have their root in biological phenomena. God the all-Perfect, the all-Knowing, cannot be conceived as reaching knowledge through a process of reasoning, and as little can He be conceived as loving and sorrowing, which are distinctive marks of finiteness. Considerations such as these led Spinoza to empty his conception of Deity of all anthropomorphic qualities. In his view, to make the term 'God' embrace the conception of a magnified human personality, and of the Uncreated, the Unrelated, the Eternal One, was as illogical as to embrace under the term 'dog' the barking animal of that name and the dog-star, Sirius.

The same considerations led Mr. Spencer, in defining his philosophical attitude towards Theism, to write as follows:—'To believe in a divine consciousness men must refrain from thinking what is meant by consciousness—must stop short with verbal propositions; and propositions which they are debarred

from rendering into thoughts will more and more fail to satisfy them. Of course like difficulties present themselves when the will of God is spoken of. So long as we refrain from giving a definite meaning to the word will, we may say that it is possessed by the Cause of All Things as readily as we may say that love of approbation is possessed by a circle; but when from the words we pass to the thoughts they stand for, we find that we can no more unite in consciousness the terms of the one proposition than we can those of the other. Whoever conceives any other will than his own must do so in terms of his own will, which is the sole will directly known to him, all other wills being only inferred. But will, as each is conscious of it, presupposes a motive, a prompting desire of some kind. Absolute indifference excludes the conception of will. Moreover will, as implying a prompting desire, connotes some end contemplated as one to be achieved, and ceases with the achievement of it; some other will referring to some other end taking its place. That is to say, will like emotion necessarily supposes a series of states of consciousness. The conception of a divine will, derived from that of the human will, involves, like it, localisation in space and time. The willing of each end excludes from consciousness for an interval the willing of other ends; and therefore is inconsistent with that omnipresent activity which simultaneously works

out an infinity of ends. It is the same with the ascription of intelligence. Not to dwell on the seriality and limitation implied as before, we may note that intelligence, as alone conceivable by us, presupposes existences independent of it and objective to it. It is carried on in terms of changes primarily wrought by alien activities—the impressions generated by things beyond consciousness, and the ideas derived from such impressions. To speak of an intelligence which exists in the absence of all such alien activities, is to use a meaningless word. If to the corollary that the First Cause, considered as intelligent, must be continually affected by independent objective activities, it is replied that these have become such by act of creation, and were previously included in the First Cause, then the reply is that in such case the First Cause could, before this creation, have had nothing to generate in it such changes as those constituting what we call intelligence, and must therefore have been unintelligent at the time when intelligence was most called for. Hence it is clear that the intelligence ascribed answers in no respect to that which we know by the name. It is intelligence out of which all the characters constituting it have vanished.'

Suppose we accept as valid the Idealistic conception of a supreme self-conscious principle as the ground of existence, the question arises as to

the relation to it of the human self-consciousness. Consciousness in man, according to Idealism, is the highest form in which existence appears. Apart from the Supreme Spiritual Principle, man has no existence. He is the incarnation under imperfect physical conditions of the Supreme Principle. What guarantee is there that this physically conditioned consciousness will exist as an entity after the break up of material conditions? There is no more guarantee in the case of Idealism than in the case of Materialism. No thinker of any note now defends Materialism. Sun-worship, indeed, is a more dignified attitude towards the Cosmos than atom-worship, and prostration before the soul of the Universe is more creditable to the savage than deification of ether. To what were the vagaries of materialistic scientists due? They were due to the neglect, common to men of science, of philosophic thinking. Materialists were entirely unaware of the fact that not one step can be taken in scientific generalisation without the aid of certain all-embracing categories of thought. Philosophy has got past the stage of viewing the Universe as made up of an infinite number of isolated particulars, or even as the outcome of one material force. To the highest philosophy of the day, the Universe is an organic unity. According to Idealism this cannot be mechanical. It can only be likened to one thing—the spiritual principle in man. For all practical purposes, however,

it signifies little whether mind is the temporary embodiment of a Spiritual Principle or a specialised form of Matter. In either case man is a bubble on the great stream of time. We may discourse of the bubble in the language of poetry or of science; the result is the same—absorption in the universal. Idealism equally with Materialism leaves man a prisoner in the hands of necessity. The only difference is that while Materialism puts round the prisoner's neck a plain unpretentious noose, Idealism adds fringes and embroidery. Materialism, in plain blunt language, passes sentence of death, while Idealism indulges in a poetic funeral oration.

The conclusion that Idealism affords no resting-place for the religious instincts and aspirations of man is forcing itself upon the more thoughtful of orthodox theologians. Thus we find Professor Iverach in a review of the late Principal Caird's last work, writing as follows:—'Idealism starts from the self, and strives to interpret the experience of the self. Our thought constitutes the world we know and live in. It exists for us in thinkable relations, and it is easy to prove this, as is done in the book before us, that "this constant amidst the variable, not given by them but above them, is something which sense does not and cannot provide—is, and can only be, the self-conscious, spiritual self, the unifying, constitutive power of thought." From the self-conscious, spiritual self, idealism

swiftly proceeds on its way to the conclusion that as for the world in which this self-conscious self lives and moves the self is necessary, so for the universe of things and persons an absolute self-consciousness, a constitutive power of thought, is necessary. As the objective world of the self is in relation to the self, so the universe is the objective of the absolute self. If the world is cast into the life of God, if the world is regarded as the other of God, one may strive as he may, but he cannot avoid the path which leads swiftly to pantheism.'

Conscious of the weakness of Idealism, other expounders of Theism, such as Professor Fraser, the well-known editor of Berkeley, attack the problem from another point of view. In Professor Fraser's Gifford lectures there are no sleight-of-hand methods of the Hegelian type. The difficulties in the way of Theism are fairly faced. The Professor covers a large piece of historical and critical ground, in which he deals with Hume, Spinoza, Hegel, Spencer. Against all the arguments drawn from philosophy and from contemplation of the evils of life, the Professor puts faith in the goodness and omnipotence of God—a position he takes up as the only way to give a rational meaning to life, and to ward off pessimistic despair. When we come to analyse the Professor's reasoning and study his results critically, we are surprised at the slender foundations upon which his Theistic

structure rests. When the average man thinks of God, he thinks of Him as a Person who can be moved by appeals, and who possesses in infinite degree the best qualities of the best men. This conception of Deity lies at the root of the belief in miracles and revelation. Take away, or render pale and shadowy, the idea of personality, or tie the hands of Deity with the ropes of physical necessity and invariability of law, and at once the average man ceases to be interested in Theism, and hands it over to the philosopher. If Professor Fraser wishes to give vitality to Theism, he must bring into relief the idea of personality. If the God of philosophic thought is not personal in the understood sense of the term, philosophic Theism comes perilously near Agnosticism. Let us listen to Professor Fraser on this decisive point of personality: 'The "personality" of God need not mean that the Being adumbrated in Nature and Man is embodied and individual self-conscious life, like the human—that God is organised and extended, as man now is—or omnipresent as in sensuous imagination; or that God has a conscious experience, that is subject like ours to change of conscious state. . . . Personality in man, moreover, implies memory; but we are not bound to suppose that the religious conception of the universe implies memory in the Perfect Person with whom all experience brings us into constant intercourse. Also a human intelligence of the world involves reasoning, on the part

of human persons; but it does not follow that the Perfect Person who speaks to us in the universe of Nature and Man must be conscious of deducing conclusions from premises, or of generalising under conditions of inductive calculation. The "personality of God" is a formula which implies that, in relation to us—or at the human point of view—the Universal Power, manifested in nature and in man, must be regarded at last ethically, not physically—therefore as an imperfectly conceived Person, not as an imperfectly conceived Thing.' After all, we do not get much beyond the conclusions reached by David Hume and Herbert Spencer. In his dialogues on religion, Hume admits that in the agency discoverable in the world we trace the operation of qualities akin to those we know as human. Spencer, too, admits that the Power of which all phenomena are manifestations may be more readily conceived under mental than material symbols. With Hume and Spencer, Professor Fraser admits the impossibility of finding God by the cognitive process, and stumbles at the difficulties of reconciling the existence of evil with divine personality. What is the note which differentiates this view from Agnosticism? He falls back upon faith in the conception that the world is so framed as to give man in the long-run rational and emotional satisfaction. The question at once arises—In matters of fundamental importance are the dictates of the heart more authoritative

than the conclusions of the head? Are man's aspirations the measure of Nature's possibilities? Or is it the duty of man to make his aspirations conform to Nature's actualities? To these questions all mythologies and theologies give one answer; science and critical philosophy give another.

Professor Fraser declares for Theism as the only breakwater to pessimism. If there is not a Deity for man to trust, and a future existence for man to expect, life must be declared a despairful tangle. Now, before Theism gives an optimist flavour to human thought, something would need to be known of the nature of the future existence postulated by Professor Fraser. There is nothing captivating in the thought of a prolongation of life, apart from its value and conditions. The Greeks believed in life after death, but they got little satisfaction out of their creed, because of the dreariness of their conceptions. Who, again, can rest satisfied with the conception of immortality embodied in Calvinism? Who would not prefer the annihilation of the entire human race to a future in which a few revelled in heavenly bliss, while the vast majority endured for ever the pangs of Tophet? To assume, therefore, as Theists do, that the bare expectation of life after death is a consoling thought, is to go in the teeth of history and human nature. In order to find a resting-point for his optimism, the Theist must declare for the necessity of a revelation. The supernaturalist can score

against the Theist by simply asking whether it is reasonable to suppose that the great question of man's destiny would be left to vague surmisings and melancholy musings. Professor Fraser feels the force of this consideration. No doubt he realises the fact that when once the miraculous element is introduced, the question enters the historical sphere, where again Hume meets us with his formidable essay on miracles. Speculative philosophy will help us little in dealing with Hume. Light, if it comes, will come from a deeper study of history, keener scientific penetration into the nature and purpose of life, and a more exhaustive psychological study of man. Already science, when reduced to its last analysis, supplies a rational basis for the belief in a mysterious, awe-inspiring Power, and fosters a sense of dependence on that Power. It remains to be seen whether science, as interpreted by philosophy, can throw some light upon the great and fundamental question of purpose. Already science, in the form of the Evolution theory, has lightened the burden of this question, so far as this earthly scene is concerned. The problem of evil and pain is not so formidable to us as it was to Hume. We are discovering significance in the earthly drama. A reverential Agnosticism does not preclude the hope that in the future man may secure for himself an harmonious conception of the world and human destiny, by means of which he will no longer find

himself an orphan wandering in a dreary wilderness, but the heir of all the ages, the interpreter of Nature and co-worker with the Eternal.

Whatever the future has in store for philosophy, one prediction may confidently be made, that humanity will owe to Herbert Spencer an everlasting debt of gratitude. Forty years ago he set himself a colossal task. He resolved to give to the world a new system of philosophy. Ill-health dogged the footsteps of the philosopher all through the long spell of years, and at times it seemed as if the Synthetic Philosophy would be left an unfinished monument of splendid audacity. Handicapped by ill-health, uncheered by popular sympathy, unrewarded by the reading public, Herbert Spencer went his lonely way with a courage akin to heroism. Now he sees his task completed. Only those who have been privileged with Mr. Spencer's friendship fully know the difficulties with which he had to battle, and can estimate the victory he has won. Many thinkers in the flush of opening manhood have conceived great systems of thought, and entered upon far-reaching projects. But too often the glow of intellectual enthusiasm has died away in presence of the daily drudgery of lonely toil. Even those who get beyond the Coleridgean stage of weaving philosophic dreams, find their ideal receding as they get entangled in the pleasures, anxieties, and ambitions of Vanity Fair. Herbert Spencer has refused to soil his robes in Vanity

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