

CHAPTER XIV

VICTORIAN PHILOSOPHY

THE GREAT THINKERS—TOTAL TRANSFORMATION OF MODERN THOUGHT BY NEW KNOWLEDGE

ALL literature progresses by undulations—by a series of actions and reactions—not by a steady flow; and not the least interesting phases of its history are those which represent the exhaustion of an impulse. Such exhaustion is due to a variety of causes in almost every case; but the chief cause is most often that talent has made out of a subject all that it is capable of making. Thereafter comes a period of stagnation during which critics theorize a great deal about the absence of genius. We have such a period to-day. The silence is broken by scarcely two or three voices, and these are small. Mr. Gosse has a very interesting theory about the hush of all the bird voices of great range in the forest of literature. In one of his poems he even attributes the silence to overscholarship.

In these restrained and painful times
Our knowledge petrifies our rhymes.

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If we could dare to write as ill
As some whose voices haunt us still,
Even we, perchance, might call our own
Their deep enchanting undertone.

We are too diffident and nice,
Too learned and too over-wise,
Too much afraid of faults to be
The flutes of bold sincerity.

[*Impression*]

Of course there is something in this view of the situation. Very few of our great poets, or of the great poets of any country have been great scholars; and a thorough knowledge of the best that has been done is apt to make the scholar afraid to do even what he is capable of. But I do not think that even the author of the above lines would seriously assure us that this is the cause of the present stagnation,—except in a very small degree. The explanation is simple enough. The higher literature is always, whatever the subject be, a reflection of life,—that is a reflection of the emotional and intellectual feelings and conceptions of a given period. And this means that it expresses, directly or indirectly, a certain philosophy. There can be no literature of any fine quality which is not supported either by some kind of philosophy, or by what takes the place of philosophy in certain ages,—namely religion. I think you will find in the general history of literary evolution that periods of non-production are very often coincident with the destruction or the change of a religious belief. And this is the meaning of the state of the higher literature at the close of the Victorian era. Life can no longer be reflected in the old way, because Western humanity has obtained a totally new conception of life, and has been obliged to abandon much of its older religion and all of its philosophy. No intellectual change ever occurred in the Occident of such a vast and penetrating kind as that which has occurred within the last fifty years.

Quite recent, is it not? In less than a human life time all our ideas have been changed. You of the Far East, receiving just at the best time the best knowledge of the West, do not often reflect that this knowledge is just as new in the West as it is to you. If we start from the year 1850, the middle of the century, we start too soon. In 1850 the seeds of the new knowledge were ripening; but the blossom was not thought of;—even the sprout had scarcely pierced above the soil. The great changes to which I am referring chiefly took place between the years 1860 and 1870,

—a decade so near to us that it is almost like yesterday. Before that time the great work of the great poets had been done;—the triumphs of Tennyson and Browning and Swinburne and Rossetti had all been won. The Victorian era had done its best in literature,—Carlyle, Ruskin, Froude,—all the great essayists and prose-writers had made their reputations. But the last quarter of the century is almost silent, so far as the higher literature is concerned. And the principal meaning of this silence is that all men's beliefs have been more or less affected by the most tremendous shock which the Western mind ever received. Poets cannot sing; thinkers have nothing to say in regard to emotional life;—that life is still shuddering with the great vibration of the new knowledge. Except George Meredith, of whom I spoke to you in a former lecture, no other poet seems to have opened his lips upon the subject which most agitates the mind of the age.

Perhaps some of you may be surprised at the lateness of the dates which I have just mentioned; for some of you certainly know that Darwin was born in 1809, Spencer in 1820, and Huxley in 1825,—that is they all belong by apposition to the first quarter of the century. But the work of none of these men appeared until the middle of the century; and the bulk of it appeared still later. Spencer spoke first; but chiefly through scientific reviews. The "First Principles" appeared only complete in 1862. Darwin's "Origin of Species" was printed in 1859. Huxley's powerful book "Man's Place in Nature" appeared in 1863. So you see that all this is very modern. Now between 1860 and 1870 the most important part of Spencer's philosophy,—namely "First Principles", "Psychology" and "Biology",—was issued. The best of Darwin's work and of Huxley's had been translated into many languages. Wallace had printed his works upon the geographical distribution of species; Bates had printed his all valuable essays upon "protective mimicry"; Galton had published his treatises upon heredity; Lubbock and Tylor had made their contribution to anthropology; a

new geology, a new paleontology, a new botany, and a new chemistry had been established. If I seem to be detaining you rather long on the subject of this decade, remember that I am reminding you not of a mere intellectual movement belonging to one country, but of an intellectual movement that passed over all Europe like a tidal wave during those ten years. Germany, especially, with her immense machinery of scholarship and her liberal spirit accepted the new thoughts, and developed the new ideas with a subtlety of perception and a precision of detail even surpassing that of most of the English scientists. Notice, for example, the great work of Haeckel. France followed, more reservedly, but with extraordinary results,—which have affected all departments not only of her educational system but of her matchless literature. And Italy had signalized her place in the new march of mind by researches in evolutionary psychology which have not been equalled in any other country. I need say nothing about the immense scientific progress made in America under the stimulus of the new ideas. It will be enough to remind you that the whole Western world since 1860 has practically accepted the new philosophy in all its intellectual centres, has reconstructed education to a great extent in consequence; and that a professor of philosophy recently declared, with indubitable truth, that any work of history, or science written from another standpoint than that of evolutionary philosophy is certain to be forgotten within a few years,—no matter how great the ability of the man who writes it.

Now I think that the same remark might be applied, with some qualifications, to future literature of the best class. This is the reason of the hush that has come over literature. Every great mind feels that in order to live, its product must represent the thought of the new era; but to master that thought will certainly take some time. Moreover the period of emotional confusion is not yet over. Only the young generation now growing up can hope to obtain the full intellectual benefit of the work of the century. Before

this can happen, means will have to be found for the digestion and assimilation of the prodigious mass of facts which have been accumulated. The ultimate result in literature must be something entirely new and strange, both in poetry and in prose. Perhaps you will live to see it. Let me now try to interest you in a brief account of the simpler principles of the new thought, and of their meaning in a literary relation. Probably no word is so familiar to your ears as the word "evolution"; but I doubt whether many of you know that this word, in its present signification, was invented first by Herbert Spencer. And among the hundreds of professors and the myriads of writers now busy in expounding, either scientifically or popularly, the principles of the new philosophy, its English founder alone represents for us the system in its totality, — so that we may best look to him for a full view of the changes in modern human thought.

A queer fact about the great founders of evolutionary philosophy, is that not a single one of them followed the profession for which he was intended. Spencer, who was never sent to any school, but chiefly educated at home, studied civil engineering and actually followed that profession until the age of 25; occasionally writing for the reviews, papers upon economics and other matters in which he displayed mathematical and logical abilities of an astonishing kind. His natural tendencies forced him eventually to give up engineering, and he found opportunities to exercise his best talents by becoming a writer, or rather an editor, of "The Economist". He had, luckily for the world, a small fortune which enabled him to live independently providing that his habits remained very simple. In the course of his studies of economics and of sociology the idea of a new system of philosophy first occurred to him and caused him to turn his mind in directions previously neglected, or but little explored. It was through mathematical studies of the highest order that he first perceived a cosmic fact, long recognized in Oriental philosophy but not known in any definite form

to Western science,—namely the alternate apparition and disparition of the Universe. He was the first who placed the nebular hypothesis of Laplace upon so solid a foundation of scientific knowledge that it ceased to be a theory and became, with some necessary modifications, a recognized fact. Presently there developed in his mind the conviction that the laws producing a universe of suns and worlds, the law producing life and thought, and all other laws must be, in their general relation, united as operating causes; and this was the beginning of the still greater perception that all laws may be reduced philosophically into one formula,—that formula of evolution which, as worded by Spencer, contains the story of the whole universe within the space of two or three lines. On this he resolved to devote the rest of his life to the composition of a new system of philosophy,—calculating, that according to his health and capacity, he would be able to live long enough to complete it. I like to mention this fact to you, because it represents a very rare and beautiful example of supreme self-denial. He must have known that his views would be received with so much opposition that he could never hope to gain even a fair hearing for them while he lived; and in order to do that work at all that he would have to live very simply, to remain unmarried, to withdraw from society, and to give all his time, health, and strength to the production of his system. Moreover that system signified nothing less than a co-ordination of all positive human knowledge—a synthesis of everything known into classified order. This meant, of course, more reading than any human being could accomplish in a single life time;—therefore much help would be necessary, and costly help of a high scientific order. But he never shrank from difficulties—not even when attacked by brain disease;—not even when he found that his little capital was in danger, and that he might never be able to publish the work even should he succeed in writing it. For ten or fifteen years none of his books paid the cost of publishing them; but his courage and perseverance at last

obtained their reward; and later he began to receive a fair income from the principal volumes, already published. Some day, the printed story of his troubles will read like a wonderful romance. At present, sufficient to say that after 36 years in spite of ill health and in spite of every possible obstacle, the colossal undertaking was fully completed, and the reputation of the philosopher as well as of his books, established for all time in all the countries of Europe.

It has been said that in regard to ultimate questions—the questions of Why, Whither, and Whence—the post-Darwinian generation is no wiser than the pre-Darwinian. This is true; but we see that a totally new conception of the Universe and of life has been forced upon the West since Spencer and the great group of scientific men who supported him began their work. Synthetizing all knowledge regarding the universe, Spencer represented the 19th century with the facts—

That all forms, from the atom to the Universe, are evolved and again dissolved according to one vast law,—the law of Evolution.

That the substance of all life, or at least the bases of all life, whether animal or vegetable, is one.

That the line between animal and vegetable life, long supposed to exist, cannot be established; that a line between animate and inanimate substance cannot be clearly established;—for the difference between what we call living and not-living is never a difference of *kind*, but only a difference of degree.

That the mind of man or any creature, is an evolution just as the body is, and apparently depends altogether upon the development of the nervous system,—the proof of which is that any human thought, no matter how lofty or how complex, can be reduced by psychological analysis into elements of simple sensation.

That sensation itself, nevertheless, remains and must always remain utterly incomprehensible.

That Matter, Motion, Space, and Time are also utterly incomprehensible.

That finally, so far as the present knowledge permits us to judge, Matter and Force, Substance and Mind, are but different modes or manifestations of one eternal and unchangeable reality. Reality is estimated by permanence; but according to this estimation we find that nothing in the universe, nor even the universe itself, is permanent. Thus although there is a relative Realism about phenomena, we must consider all forms as passing manifestations of some power which man will never be able to understand anything about so long as he remains in the condition of man.

I have given you here only a few general truths out of a multitude, just to show you how great the change that such convictions must produce in the minds of men accustomed to believe in old forms of dogma, religious dogma. You must have observed that these scientific opinions represent a kind of Monism,—that is the doctrine of all things being one. The difference between this and other kinds of Monism is partly that it is based entirely upon scientific facts, and partly that what are called mysteries in purely religious philosophy are here to a great extent replaced by scientific processes and laws. To come to this point at which I have been wishing to arrive, I shall say now that Spencer's exposition of his philosophy in the first volume of the series, offers a remarkable analogy with a profound philosophy of the East which Spencer probably had never studied at the time of writing that book. Monism, in some of its forms, is not regarded with disfavour by the best religious thinkers of the West; and the synthetic philosophy was at first well received even by cultivated believers. Since that time the principles of this philosophy, almost as we find them in Spencer's first volume, have become part of the conviction of the educated classes in every part of Europe; but in subsequent volumes the system excited much displeasure and opposition. The work on Biology, which revolutionized the science of medicine was gracefully accepted; but with the

greatest of all the works, the Psychology is still the subject of bitter controversy in intellectual circles. There were two points upon which this discussion began. I need scarcely say the first was the practical denial of the existence of an individual soul—I say, “practical denial” because the system absolutely allows no room for a soul theory. But even psychologists willing to accept this part of the new teaching, revolted at theories of a still more Oriental kind than anything to be found in the Monism of the “First Principles”. Spencer boldly stated that many of the enigmas of sensation and thought had nothing to do with the present life of the person experiencing the sensation or the thought;—the riddles were to be read only in the light of heredity. Instinct and intuition were not of the individual except as inheritances from past lives. Instinct was actually memory of past lives—composite memory, or as Spencer more scientifically calls it “organic memory”. This theory, the most interesting of all of Spencer’s theories, and wonderfully supported by the researches of Galton and others, brings the system of the “synthetic philosophy” into line with Oriental philosophy at almost every important point. Yet the system was reached, I need hardly say, through independent researches and through convictions entirely based upon scientific facts. Up to the present Spencer’s theories in “Psychology” have received powerful support, often partial only, but also always sympathetic, from such eminent men as Bain, Sully, Galton, and a few other Englishmen of science; but there is a powerful force opposed to these. In France his best expositor has been Ribot; but perhaps the most enthusiastic of his advocates has been the German G. M. Schneider. I may conclude by saying that with the exception of part of the “Psychology”, and that portion of the “Sociology” dealing with religious questions, the philosophy of Spencer has been generally accepted as the ultimate philosophy.

Of course it is not my province to give you lectures on philosophy, but only lectures on literature; and I shall make

therefore only such remarks about the new philosophy as will serve to show its relation to literature. Already you will understand that this new philosophy must have given to all creative literature a very powerful shock, because it brought into Western society a completely new conception of life—life being the natural subject of literature. But in saying that the philosopher as well as the philosophy has affected literature, I do not mean to say that Spencer established any new form of style. His own style is, indeed, as perfect as severe English can be—no man in the critical world has ever been able to find fault with him. It is a style of strong simplicity, without any ornament whatever, and it seldom rises to the level of rhetorical beauty, as it happens to do in the closing pages of the first volume of the “Psychology”. It is also enormously condensed. There is more thought in one page of Spencer than there is in twenty-five pages of Hartmann or Schopenhauer; but this makes Spencer extremely hard reading. Those who complain of his style are only those who cannot follow his thought. The style is very easy; but the thought is very difficult, and no author requires to be read so slowly. It is not, therefore, by any individual style that Spencer’s writings have affected English literature. He has affected it in quite another way. He has given new meanings and new values to thousands of words, which will probably continue hereafter to be used only in the special senses which he first attached to them. No man who reads Spencer with the ideas of the 18th century can understand him at all without long preparation. The expansion of scientific knowledge has resulted in very much more than giving us hosts of new words; it has also changed the meanings of multitudes of old words. Any person who studies Spencer even enough to master one of the volumes must always therefore be influenced by that study;—unconsciously every serious page that he writes thereafter will show this influence. The English press, and even still more perhaps the American press, has been strongly influenced by Spencerian literature. As a matter of fact

there are very few sincere students of Spencer in America; but almost every young man of education, who is able to write about political economy or sociological matters, reads just enough of Spencer on those subjects to strengthen his own vocabulary, and the result is perceptible in the reading of newspapers and magazines.

The influence of Huxley has also been considerable, — but in quite another way. He is, next to Spencer, the most interesting figure of the great Three. Like Spencer he adopted a profession for which he was never intended; but he did not have the other man's advantages in the form of a small income. He began life quite penniless. His own inclination had impelled him to become what Spencer became — a civil engineer; — the fact is interesting because showing in both men a special development of the same faculties. But he found that his means would not allow him to adopt that profession. He therefore studied medicine instead, and graduated at quite an early age, without having received anything of what could be called "higher education". It is one thing to become a doctor by diploma, and quite another thing to become a doctor by practice and opportunity. The most gifted of young doctors might easily starve to death in London if without influence or money. Huxley felt that he could never sit down in a doctor's office and wait for patients to come to him. He could not afford it. The same difficulty would have faced him even in the country towns. The profession was over-crowded. So he went very sensibly to the Naval Office and requested employment as a surgeon on some of Her Majesty's ships. He was fortunate enough to obtain it; and at a later day he was sent out with a vessel on a scientific expedition. In other words he enjoyed the same opportunity that was given to Darwin. During the voyage he studied hard, and made an extraordinary number of observations and investigations in natural history; occasionally writing and sending home papers to different scientific journals. When he came back after three years' absence, he found that some of his work had been printed,

and had greatly interested scientific men. Then he took the very bold step of resigning from the Navy, and seeking employment in London. Almost contrary to his expectations he was successful, but in quite another way from that which he had imagined possible. He was offered a professorship of paleontology,—a subject to which he had not given special attention, and did not feel himself quite justified in attempting to teach. All his knowledge of paleontology was a knowledge obtained by personal observation only—and he did not then know that observation is the best of all teachers. But he had no time to hesitate. Such an opportunity might never again come to him. He accepted the chair, filled it with extraordinary success, and thus began the most brilliant scientific career of any Englishman of the nineteenth or indeed of any preceding century. For, remember that it was a career of almost purely practical science. The young doctor was destined to become perhaps the greatest paleontologist of his time, certainly the greatest authority upon the whole great range of natural history and comparative anatomy, also an authority upon physical geography and physical science in a great number of difficult branches, lecturer at numbers of Universities, a recipient of University degrees, although he had never been a University graduate, President of the British Association, and socially a person of immense influence as well as high distinction. Probably, among men of science, no career has ever been more successful than his. Although he often said that he had no time to make money and never even tried to make money, yet he died worth £95,000—all of its money that came to him almost without effort. His efforts, his real efforts, were all in the direction of science, of education, of political and social reform. Although he spent many years of his life in opposing theology, and in denouncing Christian superstitions, yet he was buried with all honour in Westminster Abbey; for even his clerical enemies admired his sincerity, and recognized his greatness. Although he never professed to be either a man of letters

or a critic, no living Englishman had greater influence in literary criticism when he chose to make it. Probably he would have been great in any profession which he might have adopted. Nobody fifteen years ago could even have imagined this terribly practical man of science a poet;—yet, when Tennyson died, it was Huxley who was commissioned to write the commemorative poem; and he wrote a grand one. His own epitaph is very interesting;—for it shows how vast a change had come over religious thought to permit of such an epitaph even above the tomb of Huxley:—

And if there be no meeting past the grave,
If all is darkness, silence, yet 't is rest.
Be not afraid, ye waiting hearts that weep,
For God still giveth His beloved sleep.
And if eternal sleep He wills,—so best!*

Huxley was greater than Darwin—greater by knowledge, by power and quickness of intellect and by a gigantic capacity for synthesis, second only to that of Spencer. It was he who forced the Darwinian theory, through all opposition, into general acceptance, notwithstanding the warnings of his friends that he would ruin himself. No man was ever less afraid of public opinion; and the result of his courage was invariably success. Undoubtedly a weaker man would have been ruined; but there was something about Huxley that fascinated even the Bishops and Cardinals whom he put to rout, and compelled them to shake hands with him after the argument. Even in opposing *popular* movements—which is always much more dangerous to do than it is to oppose opinions held only by the cultivated, Huxley never hurt himself. For example, when that fanatical movement called the Salvation Army was at its height in England, Huxley, almost alone, had the courage to denounce the whole undertaking through the columns of *The Times*, with the result of turning away from the coffer of this

* This epitaph was composed by Mrs. Huxley.

society a very large amount of charitable money. Even at the time of his death he was engaged upon a controversy.

Naturally the controversies do not represent that part of Huxley's work which is likely to be of enduring interest. It is worthy of study chiefly as illustrative of a perfect mastery of logic and of the writer's immense range of knowledge. He had read and thoroughly grasped, in the originals, not only the old classic philosophers, but also the fathers of the church, and often proved himself to know the latter much better than the best of his theological antagonists. But we should be more interested in his scientific essays, and in those of philosophical papers which were not provoked by controversy—such as the wonderful "Evolution and Ethics", in which he gives us a condensed statement of all important forms of religious theory in their relation to scientific knowledge. As a philosopher he has had an immense influence. He revived the study of Hume and Berkeley, by placing the truths which those great thinkers enunciated upon a strong scientific foundation, and by eliminating their errors. It was Huxley also who first called attention, in a scientific way, to the possible value of Buddhist philosophy. And, generally speaking, no man has given to students more admirable advice about the methods and the values of philosophical study. This was one of the greatest benefits which he conferred upon young thinkers, in the course of his many lectures on the subject of education.

As for his own philosophy, I think that we must consider him rather as a great teacher and expounder, than as the founder or father of a system. But we may say something about his philosophical position. It was he who gave to the word "agnostic" that meaning which made it so famous in our own days—although it is a word likely to go out of fashion very soon, because there has been too much of what is called "ism" attached to it. When Huxley first used it, it was new, and then very useful. Huxley really elevated doubt into a kind of religion. Nearly all religions

teach faith—teach what we must believe without proof. Huxley's teaching was exactly opposite of this. He declared that it was the highest duty of every honest man to doubt everything which could not be proved. In his delightful autobiography, referring to his own Christian name of Thomas, he says that he never could understand how it was that his parents had bestowed upon him the name of that particular apostle "with whom he had always felt most sympathy". You know that Saint Thomas, the Apostle, is so famous for doubting, that he is always spoken of as "the doubting apostle". Nevertheless Huxley's doubts were of a profoundly religious kind. Science had compelled him to lose faith in dogma, but it had rather deepened and widened his religious feeling than diminished it. Dogmas seem to him worthless only because they were not true, and because the reality of the mystery of the Universe was infinitely more worthy of reverence than anything which dogma had ever dreamed of. No man was ever more severe upon shallow scepticism—that form of unbelief which is too ignorant to give a reason for its unbelief. And no man was less a materialist; for even Spencer has not shown the incomprehensibility of matter in so startling and powerful way as Huxley has done. Neither a spiritualist nor a materialist—refusing to affirm and refusing to deny without knowledge,—Huxley has nevertheless bequeathed us something to think about in that famous sentence where he says that nobody who "has stood alone with his dead before the abyss of the Eternal" could utter, in regard to ultimate things, a merely negative criticism.

The literary influence of Huxley is quite peculiar. In the first place we have a wonderful style to deal with—a style incomparably simple and strong even when dealing with the most abstruse and the most scientific propositions. It has been long the admiration of English writers; yet Huxley never really developed it. He had no time to rewrite, to correct, to finish and polish his work;—he threw it out raw, yet raw as it is, it is wonderful. Knowing his

history, his lack of literary training, his frightfully busy life, —his amazed friends naturally inquired of him, “Where did you get that style?” He answered frankly, “From *The Leviathan* of Hobbes”. And, in fact Huxley’s style has many points in common with the admirable style of the great philosopher of the 17th century. Of course Hobbes could not have expressed the thoughts of Huxley with the language of the Restoration; but in matters of simple logic Hobbes was the only English writer who could be called Huxley’s rival. Otherwise, remember that Hobbes was a very small mind compared to Huxley; —Hobbes had no mathematical capacity whatever, made atrocious blunders when he attempted to meddle with mathematics, and never could have been a very great man of science. But he was, for his time, a very strong thinker, and a matchless writer; and Huxley showed excellent literary judgment in his perception of the literary value attaching to Hobbes.

In the second place, Huxley showed the world how valuable a simple colloquial form of expression may be for the teaching of the most difficult and complicated subjects. He used the technical style only when addressing experts or writing on some specialism for a purely scientific publication. But when he spoke to his pupils, or to the public—either as a lecturer or as an essayist—he made his language as simple as possible. He often talks to the reader just as familiarly as you would do in the course of an intimate conversation; and much of the charm of his style is given by this encouraging familiarity. He could hold an audience breathlessly interested; but he talked to them as plainly as he would have talked to his own children. No great man of science had successfully done this before; but Huxley did it even when preparing his famous manuals for students. No books are more simply written than his manual of physiology and his manual of physiography—even fairy-tales are not more familiar in their style than some of the best pages of those two books—yet they remain the best of their kind in the language. Take even those deeper essays on “The

Metaphysics of Sensations”, and “Sensations and Sensory Organs”,—the style of them strikes you as being that of a man talking to you, not of a man writing.

I should say therefore that Huxley has a very important relation to Victorian literature, not only by his style but even still more by his method. Future men of science must learn to imitate his example, and to convey their instruction in the simplest language possible. The old-fashioned method of writing books for students in so technical a manner that the reader must look at a dictionary every few minutes, is now practically dead; and it was Huxley who killed it.

We have not yet spoken about Darwin. I have put him last of the trio, simply because this lecture is upon literature, and Darwin’s influence upon literature has been altogether indirect. He did very much to affect modern thought; but, unlike Spencer or Huxley, we could not call him a very great writer. If not very great, he was nevertheless very good;—his “Voyage of the Beagle” remains, with the sole exception of Humboldt’s “Travels”, the best simple volume of travels ever written. Nevertheless he cannot be said to have developed anything very peculiar or even noble in literary composition. There are other relations in which we must consider him. Like Spencer and like Huxley, he was obliged to become a famous man of science contrary to both the wishes of his family and his own expectation. His father first sent him to a grammar school, where he acknowledged that he did not learn anything. He was considered to be a stupid boy, with a dirty habit of collecting insects and putting them in boxes—beetles, worms, and other creeping things which disgusted his teacher. The master of the school, a stupid man, wrote home to Darwin’s father something very unpleasant about the boy’s way of amusing himself; and his father was inclined to believe the master. As soon as possible Darwin was sent to the Edinburgh University, with strict orders to study medicine, and to stop collecting spiders and beetles, etc. He tried very hard to obey; but the sight of blood made him sick, and he could

not bear the dissecting room. He therefore at last notified his father that it was simply impossible for him ever to become a doctor. Therefore his father ordered him to become a clergyman. This project met with an obstacle of quite an unexpected kind. The lad was as truthful as he was tender-hearted; and he felt obliged to report that, after an examination of the dogmas, etc. he could not quite conscientiously become a clergyman. So his father was for a while in despair. The father was all the more anxious because the young man was naturally inclined to sporting, and to frequenting wine-parties. He continued to press upon his son the advantages of a clerical life, and so far succeeded that at last Charles showed signs of yielding. He was subsequently sent to Cambridge; and his father looked forward to his entering the church. Darwin's future was, however, determined by his university friendships. Among the students pursuing scientific courses there were several who felt a strong sympathy with Darwin's inborn love of natural history, who became his earnest friends, and who influenced his studies. These were, nevertheless, studies rather of observation than of books. He was always, even in the grounds of the university, hunting for curious insects; and there is a funny story about one of his adventures in this line. One day upon an old tree he saw three beetles each of a kind which he had never seen before. He caught one in his left hand and one in his right hand—thus he had both hands occupied; but the third beetle was running away very fast. In his anxiety to catch it, he put the beetle which he held in his right hand into his mouth, so as to have that hand free. But the beetle immediately squirted into his mouth some acrid secretion that burnt his tongue horribly, so that he was obliged to spit it out; and the two beetles escaped. This is a very good instance of the recklessness of enthusiasm. He passed through Cambridge in the ordinary way,—not showing any great brilliancy in the regular course of studies, but endearing himself to his friends and always continuing his researches in natural

history. It was then that one of his fellow students obtained for him the opportunity that was to make him famous. The English Government was sending that ship *Beagle* on an exploring expedition to South America, and a naturalist was wanted to accompany the expedition. Darwin was recommended by his university friend, and was given the chance after some hesitation. The cause of the hesitation was a very curious one. The commander of the ship had studied the old false science of physiognomy, after the teaching of Lavater; and he observed that Darwin had a small flat nose. He thought that nobody having a small flat nose could possess enough energy and determination to do the work required for the *Beagle* expedition. How much he was mistaken, the world now knows. Of all the scientific workers of the 19th century, there is certainly not one who laboured more incessantly, and who achieved a greater amount of work than Charles Darwin. The events of the voyage are related in the most delightful book of travel ever written in English; but there is only one fact of Darwin's experience that requires especial mention here. Thousands who have heard of Darwin's discovery do not know how that discovery happened to be made. It was made, or rather suggested, by the reading of the book of Malthus, "On Population". Malthus had long before Darwin proclaimed the existence of that law of struggle for existence between species, which prevents the earth from ever becoming populous beyond a certain limit. Remembering certain observations which he had made in South America and elsewhere, it occurred to Darwin that the existence of the ten millions of different species of animals and plants known to exist could be explained according to the survival of the fittest types in that struggle announced by Malthus. This led to the origin of the great book. But remember that only a man of enormous practical knowledge could have seen in this way to thus profit by the reading of Malthus. I need not dwell upon subsequent events in Darwin's career—such as the storm caused by his

next work "The Descent of Man"—and the conflict that raged around his name for many years subsequently. Darwin himself never took any part in the fight. Huxley and others did the fighting for him, while he himself, buried in study, scarcely noticed the tempest which he had raised. It would have been enough to frighten a weak man to death. Millions of people who had never read his books, who did not know anything about his theories, nevertheless mentioned his name with scorn and abuse. I remember when I was a little boy being told that a wicked man called Darwin had said that men came from monkeys and that the Bible was not true, and that such a man ought to be put either into prison or into a lunatic asylum. And yet in 1882, when Darwin died, he was buried beside Sir Isaac Newton in Westminster Abbey, and his memory is honoured to-day by all classes of Englishmen.

Of course at quite an early time in his scientific career, Darwin was obliged to give up all idea of becoming a clergyman. He could not believe in the old religion any more. But he never attempted to combat the religious prejudices of his time in any direct way. He tried to leave metaphysical questions entirely alone. His mind was not at all of the same kind as Huxley's. Huxley was from childhood essentially inquisitive about truth and essentially aggressive in fighting for it. When Huxley was only seven years old, he surprised people by asking this terrible question: "What would become of things if they lost their qualities?" Take a stone, for example. Subtract from the stone its qualities of colour, hardness, brittleness, weight, resistance, etc.—and what becomes of the stone? Of course there is no stone. We know of things only through their qualities—through the effects which those qualities produce upon our senses. When a child of seven years old is able to ask such a question as this we may be sure that child will make himself heard of in the world. Darwin had no mental brilliancy of this kind;—his greatness was that of an incomparable worker, tireless in experiment, and capable

of synthetizing the facts. How he worked is a wonderful thing to think about—and sometimes not less amusing than wonderful. When he wrote his notes about Earth-worms, for example, he experimented everyday with his worms in order to discover their capacity of sensation;—he played music over the pots in which he kept them, and sounded a trombone above them in order to find out if they could hear. When his first child was born, he was never tired of making experiments in regard to the development of the little creature's capacities. And all this, which would have seemed ludicrous in the case of ordinary men, was done by Darwin with such sincerity and such good effect and to such excellent purpose, that the reading of it is one of the most agreeable pleasures possible to obtain from the perusal of any scientific document. The variety not less than profundity of Darwin's results is astonishing,—for his researches embrace Geology, Paleontology, Botany, Physiognomy, almost every branch of natural history, besides special studies of a sort which no one had attempted before him. Even if he had written nothing but the last volume which he gave to the public, he would still deserve a very high place in science; for that volume teaches us more about the formation of soil than any other single work ever written.

Whatever influence Darwin has upon literature, is as I have said before, chiefly due to the effect which he produced upon the thought of the century. When you oblige men to think in new ways, you oblige them indirectly to make use of new words. This he has done; and besides this he invented, out of necessity, a very considerable number of scientific phrases which have come into everyday use, and most of which are now so familiar that we utter them without remembering who first invented them. "Survival of the fittest", "Sexual selection", "Mutability of species" etc. are now in everybody's mouth;—it was he who first gave them the meanings which, as scientific sentences, they possessed.

Besides these three great men, there was a very large force of thinkers who aided the great work of scientific and

philosophical transformation which marks the latter half of the 19th century. I cannot dwell upon them — they are too numerous; but remember that they include such shining names as those of Tyndall, who first boldly denied the old distinction between the Organic and the Inorganic,—declaring that “the genius of Newton was potential in the fires of the sun”;—Maudsley, greatest of English thinkers in the department of practical psychology—physiological psychology, who placed the science of medicine upon the basis which Spencer had prepared for it;—Galton, who may be said even to have created several new sciences by his extraordinary researches upon the great questions both of physical and of mental heredity, upon the nature and transmission of genius, upon the results of race-crossing, and even upon the curious but startling subject of finger-marks;—Wallace, who discovered the law of the origin of species almost simultaneously with Darwin, who revolutionized modern knowledge also in regard to what we call geological geography, and in regard to the geographical distribution of species (a greater researcher and thinker, but unfortunately less strong minded than his larger contemporaries; for, in his old age, he allowed himself to drift into the superstition called Spiritualism);—Bates, who gave us revelations most extraordinary and the most valuable on the subject of what is called the “protective mimicry” of insects and animals;—these are but a few names out of a legion. All have had their share in changing the whole character of modern thought; but the three first named are, of course, the great masters.

Now you will have observed that each of these three was a man brought up according to the older fashions of thinking, obliged by circumstances to adopt a career different from that for which he had been intended, and successful only in the face of the most extraordinary difficulties and oppositions. All of the three were originally instinctively religious men, who abandoned dogmas only because of new knowledge, and love of truth and noble spirit of self-sacrifice

compelled them to do so. Practically they rang the death-knell of the old Christian beliefs. And nevertheless even the Christian churches have recognized their greatness and their sincerity of purpose. Two of them have been buried in Westminster Abbey. The third yet lives and writes; but there can scarcely be any doubt that when Herbert Spencer dies, he too will have his niche of honour in Westminster Abbey, probably with an epitaphic recognition of his greatness as the mightiest genius that the English mind has ever produced.

And all this signifies a very great deal. It signifies even upon the part of the churches, the acknowledgement that human thought has been, in Europe at least, entirely changed, and that it must continually change more and more with every generation hereafter while mental development continues. All of the old barriers set up by dogmatic faith have been broken down. The future is to be a new era of thought, a new era of philosophy. The ultimate questions must, indeed, remain for us as dark as ever—unless we should be able at some enormously remote time to develop new senses. The indications are that in the immediate future Western and Eastern thought will cease to be in opposition, and that a combination is very likely to occur between the fundamental truth of Oriental philosophy and of Occidental science. Should this come about, we might expect the inauguration of what might be called a new universal religion—a religion of humanity, not in the sense of Comte (which was an impossible dream), but in that ethical signification which would represent the unification of all that is best in human knowledge and experience. Whatever may happen, one thing must be perfectly obvious to the student of literature,—namely, that the highest literature is about to be totally transformed as an expression of human thought. When the new poetry and the new fiction appear—the poetry and the fiction that shall reflect the wisdom and the emotion of the 20th century—we may be sure that they will prove totally unlike anything in the past of Western literary art.