

SCIENCE AND THE END

BY KEIGHLEY SNOWDEN

I

BEFORE the War, there were few enlightened minds not sustained, against the miseries of the world and private griefs alike, by a hope that is the subject of this book. However vaguely, it was believed that we should reach the definite truth about the constitution and end of the Universe. So high did the hope shine that Maeterlinck, making a noble plea for wise living in the meantime, could not think it impossible that, any day, we might receive with this truth, say from Mars, the infallible formula of happiness; and all our social life, as well as the most ardent of political movements, took color and courage from the expectation.

It was taken for granted that the constitution and end of the Universe are good. Science had assured us of a law of progress. And the worst consequence of the War, not always recognized as such, is that the hope in question has become a fear. Too much appears now to portend that, for mankind at least, the key to the enigma, when found, will open a Pandora's box of evil. We are thus thrown back behind the thought of a whole half-century of optimism; and it is the worst consequence because the forces of good are hurt by it, and all public hopes whatever are feebly held.

The old religions being already shaken, it is perhaps a misery peculiar to our day that many good men die hopeless. I mean such men as do not think much of themselves in dying, but think of those they leave alive, and of all who are to live after them. To such men their own case appears no longer important; but they quit a scene of disillusionment and terrible disaster that may, it seems, continue ugly. Among the old ideas of what is good they see none strong enough to control it, and among new ideas none clear. They die willingly, but of all deaths theirs is the most pathetic, because we who look on cling to hope instinctively and cannot tell them why.

It is the purpose of this book to show reason for believing that the constitution and end of the Universe are good, and therefore that the fear is groundless. The reason in question is new, and it is scientific. I do not think, however, that it can be rejected by any one free from the bigotry of old-world concepts and authority; and, as science has made us citizens of the World, conscious and responsible as men in the past have not been, it is at least fitting that science should furnish this certainty.

II

There are, it is true, those who still hold that men ought only to believe about the World's plight what was told them long ago. But, if they were right, the discouragement now felt would be no new problem. They are pessimists by creed, since they believe the World to have been cursed for a woman's disobedience. If there is any urgency in the case now, it must confirm that view of things, and should oblige us to accept it; for, towards science, their disposition can only be to recall the taunt of Job's antagonist Zophar, "Canst thou by searching find out God?" They have not admitted a law of progress, and cannot care to know why this law appears to be one exceeding their desire and forecast. Such intractable minds must be left aside. But all others are today concerned, much as Job was, with the spirit in which the World is ordered.

It will be understood that an author withdrawn from active affairs, and without the kind of repute that might command instant publicity for a great reassurance, must have asked himself in some constraint what one man's thought can ever be worth in such an urgency as in fact stares us in the face, perhaps the greatest in recorded time as to cause, effect and diffusion. More than that: the subject is so disproportionate to one man's mind that he cannot handle it without some air of pretentiousness, however soberly.

But neither of these reflections is, or should be, crippling. The due service of each of us is what he can accomplish, and no mind is lit by a thought properly to be called its own; every thought is the focus only of countless rays that have fallen from remembered and unremembered other minds. Or the thought of any age may be compared to a chemical solution; the first group of atoms to crystallize has not even an accidental merit above the rest. There are

many minds, equally informed and equally candid, and each can only give out the truth as he conceives it, content if truth prevail in the measure of its unknown value. In this case, at any rate, others will not be likely to deny or to underestimate the urgency that prompts to such service.

III

This urgency is not more to be seen in loss of hope, with its enfeebling and tragic pressure, than in misdirections of hope, at all times the cause of human disaster. These indeed are the crux. Since hope is part of the essence of life, no disaster can either extinguish it or much dim it; but it is only a clear, steady flame as intelligence trims and shields it. There are times, as in Russia lately, when it burns like a smoking candle and men are maddened by a fume. Well that it can never be put out; but, what is not well, all the winds blow this flame about now. Except in France, where there are sceptical heads, it is least sheltered among democracies, whom the unanswered question of Job's comforter must concern. Less dangerously, but strangely, this essence of life is sometimes kept apart for death, and there are cults among whom it flickers like a corpse-light in hearts grown wistful.

Observe what is critical. Men in general are not persuaded easily to defer their hope beyond death, as they were formerly. This life itself will be proved by the present generation; and it seems unlikely that to regard the world we live in as a sort of purgatory will ever serve again. The view is one that did not gain full acceptance even in times of slavery, and it shows no public sign of doing so among free peoples. As against its promise of a postponed justice, the idea of progress has taken deep root. To note the fact is not to scrutinize a view of man's future which comforted, and may doubtless comfort still, unnumbered lifetimes. It is to remark that we are subject to life as an unescapable fact, and have to choose between the best knowledge of it that observation yields and blind experience of it.

There must evidently be misdirection of hope as long as progress is undefined. Can anything else be said to have brought on the War? And is it not natural that, after seeing the violent, useless death of millions, men should wish to know what they can do in such a world as this to make life admirable, and attempt many

things? The problem is our subjection to this life; whether it is as hopeful as we are ourselves instinctively, and if so how? If that problem can be solved now, we have a means of guidance available. If it be inscrutable, we are scarcely better off for this life's case than creatures of pure instinct, for we are destined to abide the issue in spite of ourselves, hampered as much as helped, perhaps, by our intelligence. Then, no doubt, we might be plausibly asked to believe about it what other men have heard. But in that case there is little gain in progress. World consciousness, world intercourse, the growth of knowledge, new discoveries and inventions, these are so many turns of the screw.

Are we to think them such? It must be owned that, like all ignorance which finds not till it feels, misdirected hope finds in disaster a spur of our development. But this development is towards intelligence; we are not, it seems, driven by something like the moth's instinct towards a flame. Is there not still the spur in those triumphs of science and enterprise, which put horrible weapons in our hands, sway us with strong temptations, and have contributed little to our wisdom? Do they not make it more than ever necessary to discern the end to which we are being shaped? After a prodigious nineteenth century, the spur was driven hard into our flank, and we must fear it. But, if we can understand and obey it, that may have been the winning touch.

IV

Expounding his quiet thought for the individual soul, Mr. Maeterlinck said beautifully all that can be said while these great temporal facts are left as mysteries.

"Humanity has been until now like a sick man turning from side to side on his bed to find repose; but it is not less true for that, that the only consoling words ever said to him have been said by those who spoke as if he had never been sick. This is because humanity is made to be happy, as a man is made to be healthy; and when one speaks to him about his misery, even in the midst of a misery universal and permanent, one seems to be using only accidental and provisional words. There is nothing misplaced in addressing humanity as if it were always on the eve of a great happiness or a great certainty. In reality, that is its instinctive position, though it never attain the morrow. It is good to believe that a little more thought,

a little more courage, a little more love, a little more curiosity, a little more ardour of life will suffice some day to open for us the doors of joy and truth. That is not altogether improbable. One may hope that one day everybody will be happy and wise; and, if the day never comes, the hope will not have been criminal. . . .

"It is not given to every man to be heroic, admirable, victorious, a genius, or even happy in external things. But the least favored among us may be just, loyal, mild, fraternal, generous; the worst endowed may learn to look about him without ill-will, without envy, without spite, without useless sadness; the most wholly disinherited may take I know not what silent part, which is not always the least good, in the joy of those who surround him; the dumbest may know up to what point he pardons an offence, excuses an error, admires a word or an action; and the least loved may love and respect love."

When that was written, the world had not been surfeited with horrors. Such consolation may still be good for simple minds and quiet hearts, but it treats the problem as elusive and negligible.

V

Nor can man find out God while he thinks that he knows God already. He must first forget, or with a rare candour put aside for this problem, what he has been told or has reverently imagined. It is not to be done easily by every one. Perhaps it is not to be done willingly, even with a scientific purpose in mind, by any one for whom an old belief is quite valid. But, if it be admitted that science has shown our race to be part of the order of Nature, and subject to her laws, or if no more be admitted than the sway of these laws upon us, the inquiry is not to be burked. We ought to know what Nature is doing with us, and to accept any consequence.

There is a preconception common to the western nations, which stands in the way even so. It is that, although God made the world, and us in it, something must have happened to embarrass his purpose, so that this is not to be divined by any contemplation of his handiwork. True, the old legend of man's fall is no longer taken literally, and most men suppose, more readily than they seek the evidence, that there has been some long development, some kind of ascent; but it is possible that the old mistrust of nature in which that legend was conceived is little abated. How are we to account for all those inimical things referred conveniently to a curse? They

at least are authentic. They cannot be relinquished with the legend, but rather seem in these days to be more than ever substantial and importunate. Say that man's folly brought the War upon himself: there is still to be explained a class of uncontrollable calamities, like that which lately struck Japan.

Others, like the germ diseases, have been spurs to our ignorance, but who hopes to control earthquakes or tempests? And what good purpose do they serve? More than any conception of God, their stubborn prevalence makes a difficulty. No such conception today is that of Judea, or that of the Middle Age in Europe; and it is widely understood that our conceptions have at all times, and among all peoples, been such only as they could form. So have our thoughts of sin, which even in one generation are greatly altered. But a defective world remains, and evil remains, with whatever soul of goodness may be distilled from it; and few worshippers allow God's handiwork in what seems wholly evil or a flaw.

But if it should only seem so? This would interest thousands of those who are consoled by Mr. Maeterlinck.

VI

Is it, in fact, much to ask that one should look at our situation at least as freshly as a good detective examines the scene of a crime? He has, of course, a preconception, namely, that what he sees indicates a crime in fact; but, being a competent man, he goes to work dispassionately. It is necessary to have his mood and method for the present inquiry, and on the face of things it should not be difficult to copy either, because no one thinks the case of nature as bad as that of a criminal. She is known to have some excellent traits of character, and seems rather to blunder than to mean mischief.

But in practice this mood and method cannot be attained by simple consent. One is not an outsider called in, but the victim, whose preconception is that he has been injured. How many men live with such a self-sufficient courage as never to need consoling? It may be doubted if there are more than those who do not feel keenly or think at all, and for whom the inquiry can have no interest, one way or another. Yet, obviously, this question, whether Nature is hostile to us or well-disposed, will not be resolved without impartiality. It is unfortunate that the consolations most commonly accepted con-

demn her in advance and one foresees that all who share the condemnation may either despair or be driven back upon those consolations. Browning's famous cry is not now common.

VII

Even rationalists have a preconception to put aside, and one which, when it is pointed out, they will recognize as begging the question. It is true that when they do not admit the notion of God they impute no hostile intention to Nature; and that, if the inquiry be limited to ascertain what may be called the spirit of the world, and cleared of that *petitio principii* which allows to the world an intelligent author, they will be the first to welcome it. This shall be done, then. If it were not done, the conclusion reached could not claim to be scientific. This is strictly a rational inquiry, as they will presently see; and its aim is not their conversion to a religious frame of mind, but their emancipation, and that of minds less critical and searching, from the preconception to be cited.

Few rationalists are pessimists now, whatever churchmen may have felt about them or still feel; for loyalty to the scientific method marshals them in the front ranks of modern reform, believing in progress as a verified thing, and a good thing. The belief takes, with them, the place of all old beliefs whatever. That verification which warrants it was a triumph of the freedom of thought and sovereignty of facts for which they had long and bravely contended. They, more than most men, must deplore the discouragement of the hour; and nothing can appeal to them more nearly than an attempt to clear the natural law of progress of its present ambiguity.

The preconception they must recognize appears, very plainly, in Mr. Bernard Shaw's *Back to Methuselah*, where a kind of millennial state is imagined in which love and the arts are put away as childish things. It is that progress is mainly and finally intellectual. Even this, which may seem to be the central hope of rationalism, must be intellectually examined.

VIII

Here is a stern demand upon intellectual modesty, or for it. Are rationalists prepared to consider afresh the evidence of progress, and to see if it be evidence of something larger and less prosaic than

Mr. Shaw's utopia? For, if it is, then rationalism has limitations. In the ascent of man, science has failed as yet to see and to explain anything finer than his intellectual development, and this is the sole help against ignorance and superstition, an agency and promise of relief from human woes, the greatest fact until now established. What other progress can there be, so well worth knowing? Why should one stop to reconsider it? "Modesty" seems to mean perfidy!

Well, no—since it is the intellect that takes account of the fact. The case is not more treacherous than this, that the whole story of human evolution in the past has not been told yet, nor parts of it equally well told. There is an evolution of instincts to be known, as well as of the reasoning mind; and a rationalist is not the likeliest man to undervalue instinct. He neither deems it evil nor holds a brief for Mr. Shaw's imagination. No such thinker schooled to be sincere can be, indeed, intolerant of new thought or fear new evidence, and the discouragement, harmful to rationalism, concerns it sharply. Only, this discouragement implies so grave a doubt of man's destiny that it obliges one to look afresh at his actual situation, quality, and prospects on the earth. Afresh must mean with fresh minds.

In a new and really tremendous phase of that situation, fraught with commensurate peril, we have no rational choice but to see it clearly if we can, and no more urgent concern. Our race is part of the order of Nature. What is Nature doing with us?

IX

When we know the answer to that question well enough, there will be an agreed and accepted definition of progress. For want of such a finger-post, one sees mankind at cross purposes, confused and fearful, even insensate. How can we tell if, at the moment, we are off the track, or where it lies and leads? As there is no plain sight of the road we have travelled from ages very remote, it is impossible to guess a direction ahead, and much more so to be sure of one.

Is there, then, a duty more peremptory for science than to map the road? No one, able to realize what has happened and is happening, can say that we do not need the map and hope to be acquitted of infatuation. No one at all will say that science does not owe us such a map, if she can furnish it. She it was who augmented our

peril and confusion suddenly, and their measure, if it could be taken, would be the measure of her debt. The claim is to be made although she has conferred priceless benefits *per contra*; nor can it wait if she is able to meet it in any measure, because our lives and liberties are staked on the issue.

X

Let us see if the assets of science enable her to meet this claim, either in full or in part. Are the data for preparing such a chart of human movement known to her? The need, it is evident, will be served if a chart true as to the main points of direction can be drawn ever so roughly, to be afterwards filled in. We shall see where we are, and towards what horizon to set our faces.

Scientific thinkers had shown at least partially, and perhaps sufficiently, how man may have naturally risen above the apes in manual skill and mental power. Was this the only essential teaching they might have made familiar? By itself, this is the *carte blanche* of materialism; and, together with Darwin's insistence that the fittest to live in any given conditions do so, it has been taken as the *carte blanche* of worse. Was there nothing else either explainable or needing to be explained? For, in that case, we must think it by some skill of a quite practical kind, whether of thought or of hand, that man has refined upon what the apes feel and imagine. But feeling and imagination are not practical abilities. There was evidently something else. No scientist, in fact, said that there was not; the case is only that all omitted or failed to explain that something, and that, until our worst disaster befel, its importance was not suspected by any.

It is nothing less, however, than human dignity. This, beyond question, is one of the known data, as valid a natural fact as human cleverness. Is it a fact in spite of evolution, or ought it to have been as well accounted for? It may be the greater fact of the two. Common feeling, common admiration, what is called common sense, makes it seem so, at any rate. Why was it overlooked?

XI

Unless human dignity were shown to be part of our destined evolution, a response to natural law as much as cleverness, it must

be thought, by any man reckoning for this actual life, a vain thing; by men reckoning for another, a precarious thing. Is it not so esteemed in fact? The late Mr. Clutton Brock found no good man ready or able to contradict the statement that it is, although he wrote as follows:

“Conscience has ceased to believe in its own power, has come to think of itself as a vain and inexplicable rebellion against the nature of things. This rebellion we call sentimentality, meaning thereby that it is not really moral; for true morality would recognize the process to which the nature of man is subject, of which that nature itself is a part, and would cure man of his futile rebellions so that he should not suffer needlessly from them. It would cure man of pity, because it is through pity that he suffers. He is a machine, and, if he is a conscious machine, he should be conscious of the fact that he is one. Such is the belief that has been growing upon us for fifty years or more with many strange effects. It has not destroyed our sense of pity, but has confused and exasperated it. We pity and love still, but with desperation, not like Christians assured that these things are according to the order of the universe, but fearing that they are wilful exceptions to that order, costly luxuries that we indulge in at our own peril.”

There are many qualities besides pity and love, of which all this is equally true. No single ideal, however sanely held, is known to be more than a forlorn hope embraced against unendurable prospects that may be real. Let it be plainly rational, serviceable, indispensable even; let it be such an ideal as mere loyalty between two men of business, or two friends; we are still unaware that the nature of things is not opposed to it. We may say, and do say, “Very well; it’s good enough for us.” But we have no inexorable answer for men to whom it is not good enough.

XII

The precious data for such an answer! Their neglect and value are so plain that it may be doubted if there is anywhere a scientist pursuing new knowledge without misgiving; for such a man may trust that in the long run and on a balance knowledge must be good, but he does not know it. The high faith that there is nothing greater than the truth burns, perhaps, within him; but what is the truth about human nature? Will cleverness make an end of us? Except

that it has not done so, he can cite no scientific reason why it should not; and to whom, if that happens, can the truth matter?

The misgiving suggests that all truth is not equally great, and that the greatest, the truth above all worth seeking out, is that of our destiny. If indeed, it were possible to turn the diligence of all research upon a quest of this magnitude, determining and construing such data as there are, no man of abstract science would have the right, and it is possible that few would have the courage or the disposition, to object. For the case is that, while science has either destroyed or shaken every concept formed by the dignity of human thought and feeling, and was careless of the thing itself, this is now seen to be the main thing that concerns us. And it is within the purview of science. Human dignity is a fact of life, and the scientific presumption must be that natural laws have developed it, and the sense of it.

It concerns us because it is a safeguard more effective for the mass of men, commoner after all and quicker in action, than their endowment of wisdom. Human dignity is instinctive, that is to say something felt, not devised. It concerns us because its authority has been staggered when that should have been established. And pure science, at least, has no preconception as to that authority likely to hamper the inquiry: nor is the pursuit of material gains its own. If there can be no enforced concentration of research to meet our claim, there will be an eager candor of consideration for the data as they are assembled, to recognize the factors of our environment that must or may have forged this dignity, and to see what golden age, if any, it may be rational to forecast and wise to plan for.

XIII

The open mind of the scientific world is to be seen in attempts already made to repair neglect. There are tentative advances without a map. A willingness in which one finds even the element of panic moves men who, regretting the former times of inspiration, look as they did to the supernatural for a sign, deeming that it may be natural after all. This is to seek the knowledge of our destiny by a short cut. What they have learnt is not conclusive, and fails to enhance human dignity; but they are modest, aware that we have less guidance at command than our forefathers. The merit of all schools of psychologists is that they give attention to the proper

study of mankind. However, they do not realize what is lacking to it.

And observe the unlikelihood that men will ever again have an ardent faith in short cuts to knowledge, or in any light said to be obtained that way. When the huge labor of modern science began, it was in scorn of pseudo-knowledge not procured by such labor, and the mistrust of pseudo-knowledge is what science has taught us, without regard to expediency. Her neglect of the proper study, then, is not to be repaired by means less strict than she has followed; or by means less normal and imposing. In these, she is embarrassed and dishonored by amateurs unable to use or to value her method. Most men of research would think it safer to trust in Nature blindly than to see the noble quest of truth compromised by some men's fears and hopes, however amiable or prudent; and what is asked of science is no such diplomacy, but her actual triumph.

XIV

Is this not apparent? It was science that set up the court of truth at last, with laws of evidence and a jurisprudence of deduction; and she arraigned not only superstitions and religions, but all philosophies less fundamental and searching than her own must some day be. It is true that this was done almost unawares. It is also true that, as she became conscious of her office, and laid claim to it, science mistook the service she had to render. This appeared to be decretal and corrective only, and not conservative. She austere judged and disarmed other tribunals without regard to consequences, as if there were none to be feared. But, in doing so, she not only made herself responsible in a sort for those consequences, but claimed, in effect, sufficiency as the highest court; and events have called her prestige in question. Truth is feared itself. Events impeach this highest court in the higher name of wisdom.

What must be the answer of science? Is she to quit the bench, and to see her seat usurped or the court abolished? It is neither easy nor reassuring to imagine that answer. But, for the safety of her prestige, there is none possible, short of the answer that there is no wisdom without truth, and that she has yet to ascertain and promulgate the whole truth; nor will this do unless it allows and brings in a new order of business. The cause list cannot be taken haphazard any longer. She must admit concern for wisdom as well as truth, and so, if it may be, silence and dissuade her accusers.

There is gathered, for the first time, a body of evidence as to the life of man. On this we await a finding that may be her splendid vindication.

XV

For my part, conning over this evidence wistfully, I cannot put aside the thought that if it be sufficient, and if, after such a preparation as the long past of the race implies, man is now to have some inkling of his destiny, our present uncertainties are no greater than the hour. They seem to resemble the "movement of awakening and suspense" in De Quincey's dreams, or in a pageant of which the action begins to be foreshadowed. Is it quite a puerile fancy? I am unable to say so; for the hour is one in which the world can at last receive and preserve against loss a new concept.

Consider this fact. It is a familiar qualm of thinkers who judge of our plight by the records of historic time only, that civilizations have perished with their notions of it utterly, to be succeeded sometimes by inferior ones. Traces in Mexico, Cambodia and the Mediterranean lands, remains elsewhere of strong peoples forgotten by those records, prompt a short argument against the ascent of man. It is not possible to say how much of our vaunted knowledge had been acquired by some ephemeral school of the ancients, and we are asked to infer that all this knowledge may pass into oblivion. But it is not a local treasure. The great play's action has been prepared by the invention of printing, the universal commerce of ships and railways, the telegraph and wireless telephone, photography and what not, a multiplicity of contacts that make of all mankind one family; and man's case is altered. For knowledge to be now lost, not one but every civilization must be sunk without a trace; there must be an unthinkable destruction of all educated men and all printed matter. The short argument is foolish.

There may be disasters yet, and certainly these will come unless we see how to avoid them; but we men of these days shall not in our turn be prehistoric while the world lasts. We shall, however, seem with Athens and Rome to have stood in the dawn of history.

XVI

In the little space of historic time now told, the world has become self-conscious; then in a brief half-century that evidence of man's nature and remote past has been got together. It includes this development. Whether hopeful or not, the finding on it should tell us how to expect the future, teaching us to understand the drama in which we are actors and to know our cues. This finding will be broadcast for posterity.

What natural laws, then, in our environment or in ourselves, have brought us so far along the road, us with our present cleverness and sense of dignity but without wisdom to have guarded against self-slaughter and the break-up of systems? Have any? We desire eagerly to observe such laws if we may know them. For, if not, if there are no such laws, we are precariously upheld by divine and conditional interventions of which less is known than the ancients seem to have known, and cleverness may undo us after all.

Now, it is not doubted, even by any known school of mystics, that there are natural laws intrinsic to man, for example his instincts; and science, in defining these, need fear no enmity. There is notably the instinct of curiosity, which, it seems, making great use of the opposed thumb of an ape-like ancestor, has brought us to our desperate pitch of cleverness. Its potency will not be doubted. What will be doubted, and by some minds stubbornly disliked, is the suggestion that other such laws may have at all built up our human dignity; for the old doctrine was that the instincts are evil, and it is maintained. But these instincts are part of the evidence for fresh consideration.

One would ask in vain how it happened that, when the myth of a primal perfection was found to be foolish, another thought of man's nature than that it is biased evilly did not at once occur. Evidently that myth had been built upon the notion. Evidently this notion did not fit with the new teaching that man has risen and not fallen. It stood naked and at variance. The hint to examine man's nature was surely plain, and, as if to point it, the new teaching was challenged. Could there have been an investigation of greater human importance? Did any other concern the new teaching so vitally? It is an instance of the dispassionate march of science, innocent of strategy, that she did not even see her way in that emergency.

(To be continued)