VIII

THE SENTIMENT OF RATIONALITY

I

What is the task which philosophers set themselves to perform; and why do they philosophize at all? Almost every one will immediately reply: They desire to attain a conception of the frame of things which shall on the whole be more rational than that somewhat chaotic view which every one by nature carries about with him under his hat. But suppose this rational conception attained, how is the philosopher to recognize it for what it is, and not let it slip through ignorance? The only answer can be that he will recognize its rationality as he recognizes everything else, by certain subjective marks with which it affects him. When he gets the marks, he may know that he has got the rationality.

What, then, are the marks? A strong feeling of ease, peace, rest, is one of them. The transition from a state of puzzle and perplexity to rational comprehension is full of lively relief and pleasure.

But this relief seems to be a negative rather than a positive character. Shall we then say that the feeling of rationality is constituted merely by the absence of any feeling of irrationality? I think there are very good grounds for upholding such a view. All feeling whatever, in the light of certain psychological speculations, seems to depend for its physical condition not on simple discharge of nerve-

1 From The Will to Believe, 1915, pp. 63-110. This essay as far as page 75 consists of extracts from an article printed in Mind for July 1879. Thereafter it is a reprint of an address to the Harvard Philosophical Club, delivered in 1880, and published in the Princeton Review, July 1882.
currents, but on their discharge under arrest, impediment, or resistance. Just as we feel no particular pleasure when we breathe freely, but a very intense feeling of distress when the respiratory motions are prevented — so any unobstructed tendency to action discharges itself without the production of much cogitative accompaniment, and any perfectly fluent course of thought awakens but little feeling; but when the movement is inhibited, or when the thought meets with difficulties, we experience distress. It is only when the distress is upon us that we can be said to strive, to crave, or to aspire. When enjoying plenary freedom either in the way of motion or of thought, we are in a sort of anaesthetic state in which we might say with Walt Whitman, if we care to say anything about ourselves at such times, “I am sufficient as I am.” This feeling of the sufficiency of the present moment, of its absoluteness,—this absence of all need to explain it, account for it, or justify it,—is what I call the Sentiment of Rationality. As soon, in short, as we are enabled from any cause whatever to think with perfect fluency, the thing we think of seems to us pro tanto rational.

Whatever modes of conceiving the cosmos facilitate this fluency, produce the sentiment of rationality. Conceived in such modes, being vouches for itself and needs no further philosophic formulation. But this fluency may be obtained in various ways; and first I will take up the theoretic way.

The facts of the world in their sensible diversity are always before us, but our theoretic need is that they should be conceived in a way that reduces their manifoldness to simplicity. Our pleasure at finding that a chaos of facts is the expression of a single underlying fact is like the relief of the musician at resolving a confused mass of sound into melodic or harmonic order. The simplified result is handled with far less mental effort than the original data; and a philosophic conception of nature is thus in no metaphorical sense a labour-saving contrivance. The passion
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for parsimony, for economy of means in thought, is the philosophic passion *par excellence*; and any character or aspect of the world's phenomena which gathers up their diversity into monotony will gratify that passion, and in the philosopher's mind stand for that essence of things compared with which all their other determinations may by him be overlooked.

More universality or extensiveness is, then, one mark which the philosopher's conceptions must possess. Unless they apply to an enormous number of cases they will not bring him relief. The knowledge of things by their causes, which is often given as a definition of rational knowledge, is useless to him unless the causes converge to a minimum number, while still producing the maximum number of effects. The more multiple then are the instances, the more flowingly does his mind rove from fact to fact. The phenomenal transitions are no real transitions; each item is the same old friend with a slightly altered dress.

Who does not feel the charm of thinking that the moon and the apple are, as far as their relation to the earth goes, identical; of knowing respiration and combustion to be one; of understanding that the balloon rises by the same law whereby the stone sinks; of feeling that the warmth in one's palm when one rubs one's sleeve is identical with the motion which the friction checks; of recognizing the difference between beast and fish to be only a higher degree of that between human father and son; of believing our strength when we climb the mountain or fell the tree to be no other than the strength of the sun's rays which made the corn grow out of which we got our morning meal?

But alongside of this passion for simplification there exists a sister passion, which in some minds—though they perhaps form the minority—is its rival. This is the passion for distinguishing; it is the impulse to be acquainted with the parts rather than to comprehend the whole. Loyalty to clearness and integrity of perception, dislike of blurred
outlines, of vague identifications, are its characteristics. It loves to recognize particulars in their full completeness, and the more of these it can carry the happier it is. It prefers any amount of incoherence, abruptness, and fragmentariness (so long as the literal details of the separate facts are saved) to an abstract way of conceiving things that, while it simplifies them, dissolves away at the same time their concrete fulness. Clearness and simplicity thus set up rival claims, and make a real dilemma for the thinker.

A man's philosophic attitude is determined by the balance in him of these two cravings. No system of philosophy can hope to be universally accepted among men which grossly violates either need, or entirely subordinates the one to the other. The fate of Spinoza, with his barren union of all things in one substance, on the one hand; that of Hume, with his equally barren "looseness and separateness" of everything, on the other—neither philosopher owning any strict and systematic disciples to-day, each being to posterity a warning as well as a stimulus—show us that the only possible philosophy must be a compromise between an abstract monotonity and a concrete heterogeneity. But the only way to mediate between diversity and unity is to class the diverse items as cases of a common essence which you discover in them. Classification of things into extensive "kinds" is thus the first step; and classification of their relations and conduct into extensive "laws" is the last step, in their philosophic unification. A completed theoretic philosophy can thus never be anything more than a completed classification of the world's ingredients; and its results must always be abstract since the basis of every classification is the abstract essence embedded in the living fact—the rest of the living fact being for the time ignored by the classifier. This means that none of our explanations are complete. They subsume things under heads wider or more familiar; but the last heads, whether of things or of their connections, are mere
abstract genera, data which we just find in things and write down.

When, for example, we think that we have rationally explained the connection of the facts $A$ and $B$ by classing both under their common attribute $x$, it is obvious that we have really explained only so much of these items as is $x$. To explain the connection of choke-damp and suffocation by the lack of oxygen is to leave untouched all the other peculiarities both of choke-damp and of suffocation—such as convulsions and agony on the one hand, density and explosibility on the other. In a word, so far as $A$ and $B$ contain $l$, $m$, $n$, and $o$, $p$, $q$, respectively, in addition to $x$, they are not explained by $x$. Each additional particularity makes its distinct appeal. A single explanation of a fact only explains it from a single point of view. The entire fact is not accounted for until each and all of its characters have been classed with their likes elsewhere. To apply this now to the case of the universe, we see that the explanation of the world by molecular movements explains it only so far as it actually is such movements. To invoke the "Unknowable" explains only so much as is unknowable, "Thought" only so much as is thought, "God" only so much as is God. Which thought? Which God?—are questions that have to be answered by bringing in again the residual data from which the general term was abstracted. All those data that cannot be analytically identified with the attribute invoked as universal principle, remain as independent kinds or natures, associated empirically with the said attribute but devoid of rational kinship with it.

Hence the unsatisfactoriness of all our speculations. On the one hand, so far as they retain any multiplicity in their terms, they fail to get us out of the empirical sand-heap world; on the other, so far as they eliminate multiplicity the practical man despises their empty barrenness. The most they can say is that the elements of the world are such and such, and that each is identical with itself wherever found; but the question Where is it found? the prac-
tical man is left to answer by his own wit. Which, of all the essences, shall here and now be held the essence of this concrete thing, the fundamental philosophy never attempts to decide. We are thus led to the conclusion that the simple classification of things is, on the one hand, the best possible theoretic philosophy, but is, on the other, a most miserable and inadequate substitute for the fulness of the truth. It is a monstrous abridgment of life, which, like all abridgments, is got by the absolute loss and casting out of real matter. This is why so few human beings truly care for philosophy. The particular determinations which she ignores are the real matter exciting needs, quite as potent and authoritative as hers. What does the moral enthusiast care for philosophical ethics? Why does the Ästhetik of every German philosopher appear to the artist an abomination of desolation?

Grau, theurer Freund, ist alle Theorie
Und grün des Lebens goldner Baum.

The entire man, who feels all needs by turns, will take nothing as an equivalent for life but the fulness of living itself. Since the essences of things are as a matter of fact disseminated through the whole extent of time and space, it is in their spread-outness and alternation that he will enjoy them. When weary of the concrete clash and dust and pettiness, he will refresh himself by a bath in the eternal springs, or fortify himself by a look at the immutable natures. But he will only be a visitor, not a dweller in the region; he will never carry the philosophic yoke upon his shoulders, and when tired of the grey monotony of her problems and insipid spaciousness of her results, will always escape gleefully into the teeming and dramatic richness of the concrete world.

So our study turns back here to its beginning. Every way of classifying a thing is but a way of handling it for some particular purpose. Conceptions, "kinds," are teleological instruments. No abstract concept can be a
valid substitute for a concrete reality except with reference to a particular interest in the conceiver. The interest of theoretic rationality, the relief of identification, is but one of a thousand human purposes. When others rear their heads, it must pack up its little bundle and retire till its turn recurs. The exaggerated dignity and value that philosophers have claimed for their solutions is thus greatly reduced. The only virtue their theoretic conception need have is simplicity, and a simple conception is an equivalent for the world only so far as the world is simple—the world meanwhile, whatever simplicity it may harbour, being also a mightily complex affair. Enough simplicity remains, however, and enough urgency in our craving to reach it, to make the theoretic function one of the most invincible of human impulses. The quest of the fewest elements of things is an ideal that some will follow, as long as there are men to think at all.

But suppose the goal attained. Suppose that at last we have a system unified in the sense that has been explained. Our world can now be conceived simply, and our mind enjoys the relief. Our universal concept has made the concrete chaos rational. But now I ask, Can that which is the ground of rationality in all else be itself properly called rational? It would seem at first sight that it might. One is tempted at any rate to say that, since the craving for rationality is appeased by the identification of one thing with another, a datum which left nothing else outstanding might quench that craving definitively, or be rational in se. No otherness being left to annoy us, we should sit down at peace. In other words, as the theoretic tranquillity of the poor results from his spinning no further considerations about his chaotic universe, so any datum whatever (provided it were simple, clear, and ultimate) ought to banish puzzle from the universe of the philosopher and confer peace, inasmuch as there would then be for him absolutely no further considerations to spin.
This in fact is what some persons think. Professor Bain says—

"A difficulty is solved, a mystery unriddled, when it can be shown to resemble something else; to be an example of a fact already known. Mystery is isolation, exception, or it may be apparent contradiction: the resolution of the mystery is found in assimilation, identity, fraternity. When all things are assimilated, so far as assimilation can go, so far as likeness holds, there is an end to explanation; there is an end to what the mind can do, or can intelligently desire. . . . The path of science as exhibited in modern ages is toward generality, wider and wider, until we reach the highest, the widest laws of every department of things; there explanation is finished, mystery ends, perfect vision is gained."

But, unfortunately, this first answer will not hold. Our mind is so wedded to the process of seeing an other beside every item of its experience, that when the notion of an absolute datum is presented to it, it goes through its usual procedure and remains pointing at the void beyond, as if in that lay further matter for contemplation. In short, it spins for itself the further positive consideration of a nonentity enveloping the being of its datum; and as that leads nowhere, back recoils the thought toward its datum again. But there is no natural bridge between nonentity and this particular datum, and the thought stands oscillating to and fro, wondering "Why was there anything but nonentity; why just this universal datum and not another?" and finds no end, in wandering mazes lost. Indeed, Bain's words are so untrue that in reflecting men it is just when the attempt to fuse the manifold into a single totality has been most successful, when the conception of the universe as a unique fact is nearest its perfection, that the craving for further explanation, the ontological wonder-sickness, arises in its extremest form. As Schopenhauer says, "The uneasiness which keeps the never-
resting clock of metaphysics in motion, is the consciousness that the non-existence of this world is just as possible as its existence."

The notion of nonentity may thus be called the parent of the philosophic craving in its subtilest and profoundest sense. Absolute existence is absolute mystery, for its relations with the nothing remain unmediated to our understanding. One philosopher only has pretended to throw a logical bridge over this chasm. Hegel, by trying to show that nonentity and concrete being are linked together by a series of identities of a synthetic kind, binds everything conceivable into a unity, with no outlying notion to disturb the free rotary circulation of the mind within its bounds. Since such unchecked movement gives the feeling of rationality, he must be held, if he has succeeded, to have eternally and absolutely quenched all rational demands.

But for those who deem Hegel's heroic effort to have failed, nought remains but to confess that when all things have been unified to the supreme degree, the notion of a possible other than the actual may still haunt our imagination and prey upon our system. The bottom of being is left logically opaque to us, as something which we simply come upon and find, and about which (if we wish to act) we should pause and wonder as little as possible. The philosopher's logical tranquillity is thus in essence no other than the boor's. They differ only as to the point at which each refuses to let further considerations upset the absoluteness of the data he assumes. The boor does so immediately, and is liable at any moment to the ravages of many kinds of doubt. The philosopher does not do so till unity has been reached, and is warranted against the inroads of those considerations, but only practically, not essentially, secure from the blighting breath of the ultimate Why? If he cannot exorcise this question, he must ignore or blink it, and, assuming the data of his system as something given, and the gift as ultimate, simply proceed to a life of contemplation or of action based on it. There is no doubt that this
acting on an opaque necessity is accompanied by a certain pleasure. See the reverence of Carlyle for brute fact: "There is an infinite significance in fact." "Necessity," says Dühring, and he means not rational but given necessity, "is the last and highest point that we can reach. . . . It is not only the interest of ultimate and definitive knowledge, but also that of the feelings, to find a last repose and an ideal equilibrium in an uttermost datum which can simply not be other than it is."

Such is the attitude of ordinary men in their theism, God’s fiat being in physics and morals such an uttermost datum. Such also is the attitude of all hard-minded analysts and Verstandesmenschen. Lotze, Renouvier, and Hodgson promptly say that of experience as a whole no account can be given, but neither seeks to soften the abruptness of the confession nor to reconcile us with our impotence.

But mediating attempts may be made by more mystical minds. The peace of rationality may be sought through ecstasy when logic fails. To religious persons of every shade of doctrine moments come when the world, as it is, seems so divinely orderly, and the acceptance of it by the heart so rapturously complete, that intellectual questions vanish; nay, the intellect itself is hushed to sleep—as Wordsworth says, "thought is not; in enjoyment it expires." Ontological emotion so fills the soul that ontological speculation can no longer overlap it and put her girdle of interrogation-marks round existence. Even the least religious of men must have felt with Walt Whitman, when loafing on the grass on some transparent summer morning, that "swiftly arose and spread round him the peace and knowledge that pass all the argument of the earth." At such moments of energetic living we feel as if there were something diseased and contemptible, yea, vile, in theoretic grubbing and brooding. In the eye of healthy sense the philosopher is at best a learned fool.

Since the heart can thus wall out the ultimate irration-
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ality which the head ascertains, the erection of its procedure into a systematized method would be a philosophic achievement of first-rate importance. But as used by mystics hitherto it has lacked universality, being available for few persons and at few times, and even in these being apt to be followed by fits of reaction and dryness; and if men should agree that the mystical method is a subterfuge without logical pertinency, a plaster but no cure, and that the idea of nonentity can never be exorcised, empiricism will be the ultimate philosophy. Existence then will be a brute fact to which as a whole the emotion of ontologic wonder shall rightfully cleave, but remain eternally unsatisfied. Then wonderfulness or mysteriousness will be an essential attribute of the nature of things, and the exhibition and emphasizing of it will continue to be an ingredient in the philosophic industry of the race. Every generation will produce its Job, its Hamlet, its Faust, or its Sartor Resartus.

With this we seem to have considered the possibilities of purely theoretic rationality. But we saw at the outset that rationality meant only unimpeded mental function. Impediments that arise in the theoretic sphere might perhaps be avoided if the stream of mental action should leave that sphere betimes and pass into the practical. Let us therefore inquire what constitutes the feeling of rationality in its practical aspect. If thought is not to stand forever pointing at the universe in wonder, if its movement is to be diverted from the issueless channel of purely theoretic contemplation, let us ask what conception of the universe will awaken active impulses capable of effecting this diversion. A definition of the world which will give back to the mind the free motion which has been blocked in the purely contemplative path may so far make the world seem rational again.

Well, of two conceptions equally fit to satisfy the logical demand, that one which awakens the active impulses, or
satisfies other aesthetic demands better than the other, will be accounted the more rational conception, and will deservedly prevail.

There is nothing improbable in the supposition that an analysis of the world may yield a number of formulæ, all consistent with the facts. In physical science different formulæ may explain the phenomena equally well—the one-fluid and the two-fluid theories of electricity, for example. Why may it not be so with the world? Why may there not be different points of view for surveying it, within each of which all data harmonize, and which the observer may therefore either choose between, or simply cumulate one upon another? A Beethoven string-quartet is truly, as some one has said, a scraping of horses’ tails on cats’ bowels, and may be exhaustively described in such terms; but the application of this description in no way precludes the simultaneous applicability of an entirely different description. Just so a thorough-going interpretation of the world in terms of mechanical sequence is compatible with its being interpreted teleologically, for the mechanism itself may be designed.

If, then, there were several systems excogitated, equally satisfying to our purely logical needs, they would still have to be passed in review, and approved or rejected by our aesthetic and practical nature. Can we define the tests of rationality which these parts of our nature would use?

Philosophers long ago observed the remarkable fact that mere familiarity with things is able to produce a feeling of their rationality. The empiricist school has been so much struck by this circumstance as to have laid it down that the feeling of rationality and the feeling of familiarity are one and the same thing, and that no other kind of rationality than this exists. The daily contemplation of phenomena juxtaposed in a certain order begets an acceptance of their connection, as absolute as the repose engendered by theoretic insight into their coherence. To explain a thing is to
pass easily back to its antecedents; to know it is easily to foresee its consequents. Custom, which lets us do both, is thus the source of whatever rationality the thing may gain in our thought.

In the broad sense in which rationality was defined at the outset of this essay, it is perfectly apparent that custom must be one of its factors. We said that any perfectly fluent and easy thought was devoid of the sentiment of irrationality. Inasmuch then as custom acquaints us with all the relations of a thing, it teaches us to pass fluently from that thing to others, and _pro tanto_ tinges it with the rational character.

Now, there is one particular relation of greater practical importance than all the rest—I mean the relation of a thing to its future consequences. So long as an object is unusual, our expectations are baffled; they are fully determined as soon as it becomes familiar. I therefore propose this as the first practical requisite which a philosophic conception must satisfy: _It must, in a general way at least, banish uncertainty from the future._ The permanent presence of the sense of futurity in the mind has been strangely ignored by most writers, but the fact is that our consciousness at a given moment is never free from the ingredient of expectancy. Every one knows how when a painful thing has to be undergone in the near future, the vague feeling that it is impending penetrates all our thought with uneasiness and subtly vitiates our mood even when it does not control our attention; it keeps us from being at rest, at home in the given present. The same is true when a great happiness awaits us. But when the future is neutral and perfectly certain, "we do not mind it," as we say, but give an undisturbed attention to the actual. Let now this haunting sense of futurity be thrown off its bearings or left without an object, and immediately uneasiness takes possession of the mind. But in every novel or unclassified experience this is just what occurs; we do not know what will come next; and novelty _per se_ becomes a mental irri-
tant, while custom *per se* is a mental sedative, merely because
the one baffles while the other settles our expectations.

Every reader must feel the truth of this. What is meant
by coming "to feel at home" in a new place, or with new
people? It is simply that, at first, when we take up our
quarters in a new room, we do not know what draughts
may blow in upon our back, what doors may open, what
forms may enter, what interesting objects may be found in
cupboards and corners. When after a few days we have
learned the range of all these possibilities, the feeling of
strangeness disappears. And so it does with people, when
we have got past the point of expecting any essentially new
manifestations from their character.

The utility of this emotional effect of expectation is
perfectly obvious; "natural selection," in fact, was bound
to bring it about sooner or later. It is of the utmost practical
importance to an animal that he should have prevision of
the qualities of the objects that surround him, and especially
that he should not come to rest in presence of circumstances
that might be fraught either with peril or advantage—
go to sleep, for example, on the brink of precipices, in the
dens of enemies, or view with indifference some new-
appearing object that might, if chased, prove an important
addition to the larder. Novelty *ought* to irritate him. All
curiosity has thus a practical genesis. We need only look
at the physiognomy of a dog or a horse when a new object
comes into his view, his mingled fascination and fear, to
see that the element of conscious insecurity or perplexed
expectation lies at the root of his emotion. A dog's curiosity
about the movements of his master or a strange object
only extends as far as the point of deciding what is going
to happen next. That settled, curiosity is quenched. The
dog quoted by Darwin, whose behaviour in presence of a
newspaper moved by the wind seemed to testify to a
sense "of the supernatural," was merely exhibiting the
irritation of an uncertain future. A newspaper which could
move spontaneously was in itself so unexpected that the
poor brute could not tell what new wonders the next moment might bring forth.

To turn back now to philosophy. An ultimate datum, even though it be logically unrationalized, will, if its quality is such as to define expectancy, be peacefully accepted by the mind; while if it leave the least opportunity for ambiguity in the future, it will to that extent cause mental uneasiness if not distress. Now, in the ultimate explanations of the universe which the craving for rationality has elicited from the human mind, the demands of expectancy to be satisfied have always played a fundamental part. The term set up by philosophers as primordial has been one which banishes the incalculable. "Substance," for example, means, as Kant says, *das Beharrliche*, which will be as it has been, because its being is essential and eternal. And although we may not be able to prophesy in detail the future phenomena to which the substance shall give rise, we may set our minds at rest in a general way, when we have called the substance God, Perfection, Love, or Reason, by the reflection that whatever is in store for us can never at bottom be inconsistent with the character of this term; so that our attitude even toward the unexpected is in a general sense defined. Take again the notion of immortality, which for common people seems to be the touchstone of every philosophic or religious creed: what is this but a way of saying that the determination of expectancy is the essential factor of rationality? The wrath of science against miracles, of certain philosophers against the doctrine of free-will, has precisely the same root—dislike to admit any ultimate factor in things which may rout our prevision or upset the stability of our outlook.

Anti-substantialist writers strangely overlook this function in the doctrine of substance: "If there be such a *substratum,*" says Mill, "suppose it at this instant miraculously annihilated, and let the sensations continue to occur in the same order, and how would the *substratum*
be missed? By what signs should we be able to discover that its existence had terminated? Should we not have as much reason to believe that it still existed as we now have? And if we should not then be warranted in believing it, how can we be so now?" Truly enough, if we have already securely bagged our facts in a certain order, we can dispense with any further warrant for that order. But with regard to the facts yet to come the case is far different. It does not follow that if substance may be dropped from our conception of the irrecoverably past, it need be an equally empty complication to our notions of the future. Even if it were true that, for aught we know to the contrary, the substance might develop at any moment a wholly new set of attributes, the mere logical form of referring things to a substance would still (whether rightly or wrongly) remain accompanied by a feeling of rest and future confidence. In spite of the acutest nihilistic criticism, men will therefore always have a liking for any philosophy which explains things per substantiam.

A very natural reaction against the theosophizing conceit and hide-bound confidence in the upshot of things, which vulgarly optimistic minds display, has formed one factor of the scepticism of empiricists, who never cease to remind us of the reservoir of possibilities alien to our habitual experience which the cosmos may contain, and which, for any warrant we have to the contrary, may turn it inside out to-morrow. Agnostic substantialism like that of Mr. Spencer, whose Unknowable is not merely the unfathomable but the absolute-irrational, on which, if consistently represented in thought, it is of course impossible to count, performs the same function of rebuking a certain stagnancy and smugness in the manner in which the ordinary philistine feels his security. But considered as anything else than as reactions against an opposite excess, these philosophies of uncertainty cannot be acceptable; the general mind will fail to come to rest in their presence, and will seek for solutions of a more reassuring kind.
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We may then, I think, with perfect confidence lay down as a first point gained in our inquiry, that a prime factor in the philosophic craving is the desire to have expectancy defined; and that no philosophy will definitively triumph which in an emphatic manner denies the possibility of gratifying this need.

We pass with this to the next great division of our topic. It is not sufficient for our satisfaction merely to know the future as determined, for it may be determined in either of many ways, agreeable or disagreeable. For a philosophy to succeed on a universal scale it must define the future congruously with our spontaneous powers. A philosophy may be unimpeachable in other respects, but either of two defects will be fatal to its universal acceptance. First, its ultimate principle must not be one that essentially baffles and disappoints our dearest desires and most cherished powers. A pessimistic principle like Schopenhauer's incurably vicious Will-substance, or Hartmann's wicked jack-of-all-trades the Unconscious, will perpetually call forth essays at other philosophies. Incompatibility of the future with their desires and active tendencies is, in fact, to most men a source of more fixed disquietude than uncertainty itself. Witness the attempts to overcome the "problem of evil," the "mystery of pain." There is no "problem of good."

But a second and worse defect in a philosophy than that of contradicting our active propensities is to give them no object whatever to press against. A philosophy whose principle is so incommensurate with our most intimate powers as to deny them all relevancy in universal affairs, as to annihilate their motives at one blow, will be even more unpopular than pessimism. Better face the enemy than the eternal Void! This is why materialism will always fail of universal adoption, however well it may fuse things into atomistic unity, however clearly it may prophesy the future eternity. For materialism denies reality to the objects of
almost all the impulses which we most cherish. The real
meaning of the impulses, it says, is something which has no
emotional interest for us whatever. Now, what is called
"extradition" is quite as characteristic of our emotions
as of our senses: both point to an object as the cause of
the present feeling. What an intensely objective reference
lies in fear! In like manner an enraptured man and a
dreary-feeling man are not simply aware of their subjective
states; if they were, the force of their feelings would all
evaporate. Both believe there is outward cause why they
should feel as they do: either, "It is a glad world! how
good life is!" or, "What a loathsome tedium is existence!"
Any philosophy which annihilates the validity of the
reference by explaining away its objects or translating
them into terms of no emotional pertinency, leaves the
mind with little to care or act for. This is the opposite
condition from that of nightmare, but when acutely brought
home to consciousness it produces a kindred horror. In
nightmare we have motives to act, but no power; here we
have powers, but no motives. A nameless unheimlichkeit
comes over us at the thought of there being nothing eternal
in our final purposes, in the objects of those loves and
aspirations which are our deepest energies. The mon-
strously lopsided equation of the universe and its knower,
which we postulate as the ideal of cognition, is perfectly
paralleled by the no less lopsided equation of the universe
and the doer. We demand in it a character for which our
emotions and active propensities shall be a match. Small
as we are, minute as is the point by which the cosmos
impinges upon each one of us, each one desires to feel that
his reaction at that point is congruous with the demands of
the vast whole—that he balances the latter, so to speak,
and is able to do what it expects of him. But as his abilities
to do lie wholly in the line of his natural propensities; as
he enjoys reacting with such emotions as fortitude, hope,
rapture, admiration, earnestness, and the like; and as he
very unwillingly reacts with fear, disgust, despair, or doubt
—a philosophy which should only legitimate emotions of the latter sort would be sure to leave the mind a prey to discontent and craving.

It is far too little recognized how entirely the intellect is built up of practical interests. The theory of evolution is beginning to do very good service by its reduction of all mentality to the type of reflex action. Cognition, in this view, is but a fleeting moment, a cross-section at a certain point, of what in its totality is a motor phenomenon. In the lower forms of life no one will pretend that cognition is anything more than a guide to appropriate action. The germinal question concerning things brought for the first time before consciousness is not the theoretic “What is that?” but the practical “Who goes there?” or rather, as Horwicz has admirably put it, “What is to be done?” —“Was fang’ ich an?” In all our discussions about the intelligence of lower animals, the only test we use is that of their acting as if for a purpose. Cognition, in short, is incomplete until discharged in act; and although it is true that the later mental development, which attains its maximum through the hypertrophied cerebrum of man, gives birth to a vast amount of theoretic activity over and above that which is immediately ministerial to practice, yet the earlier claim is only postponed, not effaced, and the active nature asserts its rights to the end.

When the cosmos in its totality is the object offered to consciousness, the relation is in no whit altered. React on it we must in some congenial way. It was a deep instinct in Schopenhauer which led him to reinforce his pessimistic argumentation by a running volley of invective against the practical man and his requirements. No hope for pessimism unless he is slain!

Helmholtz’s immortal works on the eye and ear are to a great extent little more than a commentary on the law that practical utility wholly determines which parts of our sensations we shall be aware of, and which parts we shall ignore. We notice or discriminate an ingredient of sense
only so far as we depend upon it to modify our actions. We comprehend a thing when we synthetize it by identity with another thing. But the other great department of our understanding, acquaintance (the two departments being recognized in all languages by the antithesis of such words as wissen and kennen; seire and noscre, etc.), what is that also but a synthesis—a synthesis of a passive perception with a certain tendency to reaction? We are acquainted with a thing as soon as we have learned how to behave towards it, or how to meet the behaviour which we expect from it. Up to that point it is still "strange" to us.

If there be anything at all in this view, it follows that however vaguely a philosopher may define the ultimate universal datum, he cannot be said to leave it unknown to us so long as he in the slightest degree pretends that our emotional or active attitude toward it should be of one sort rather than another. He who says "life is real, life is earnest," however much he may speak of the fundamental mysteriousness of things, gives a distinct definition to that mysteriousness by ascribing to it the right to claim from us the particular mood called seriousness—which means the willingness to live with energy, though energy bring pain. The same is true of him who says that all is vanity. For indefinable as the predicate "vanity" may be in se, it is clearly something that permits anaesthesia, mere escape from suffering, to be our rule of life. There can be no greater incongruity than for a disciple of Spencer to proclaim with one breath that the substance of things is unknowable, and with the next that the thought of it should inspire us with awe, reverence, and a willingness to add our co-operative push in the direction toward which its manifestations seem to be drifting. The unknowable may be unfathomed, but if it make such distinct demands upon our activity we surely are not ignorant of its essential quality.

If we survey the field of history and ask what feature all
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great periods of revival, of expansion of the human mind, display in common, we shall find, I think, simply this: that each and all of them have said to the human being, "The inmost nature of the reality is congenial to powers which you possess." In what did the emancipation message of primitive Christianity consist but in the announcement that God recognizes those weak and tender impulses which paganism had so rudely overlooked? Take repentance: the man who can do nothing rightly can at least repent of his failures. But for paganism this faculty of repentance was a pure supernumerary, a straggler too late for the fair. Christianity took it, and made it the one power within us which appealed straight to the heart of God. And after the night of the middle ages had so long branded with obloquy even the generous impulses of the flesh, and defined the reality to be such that only slavish natures could commune with it, in what did the sursum corda of the platonizing renaissance lie but in the proclamation that the archetype of verity in things laid claim on the widest activity of our whole æsthetic being? What were Luther's mission and Wesley's but appeals to powers which even the meanest of men might carry with them—faith and self-despair—but which were personal, requiring no priestly intermedation, and which brought their owner face to face with God? What caused the wildfire influence of Rousseau but the assurance he gave that man's nature was in harmony with the nature of things, if only the paralyzing corruptions of custom would stand from between? How did Kant and Fichte, Goethe and Schiller, inspire their time with cheer, except by saying, "Use all your powers; that is the only obedience the universe exacts"? And Carlyle with his gospel of work, of fact, of veracity, how does he move us except by saying that the universe imposes no tasks upon us but such as the most humble can perform? Emerson's creed that everything that ever was or will be is here in the enveloping now; that man has but to obey himself—"He who will rest in what he is, is a part of destiny"—is in like manner nothing
but an exorcism of all scepticism as to the pertinency of one's natural faculties.

In a word, "Son of Man, stand upon thy feet and I will speak unto thee!" is the only revelation of truth to which the solving epochs have helped the disciple. But that has been enough to satisfy the greater part of his rational need. *In se* and *per se* the universal essence had hardly been more defined by any of these formulas than by the agnostic x; but the mere assurance that my powers, such as they are, are not irrelevant to it, but pertinent; that it speaks to them and will in some way recognize their reply; that I can be a match for it if I will, and not a footless waif—suffices to make it rational to my feeling in the sense given above. Nothing could be more absurd than to hope for the definitive triumph of any philosophy which should refuse to legitimate, and to legitimate in an emphatic manner, the more powerful of our emotional and practical tendencies. Fatalism, whose solving word in all crises of behaviour is "all striving is vain," will never reign supreme, for the impulse to take life strivingly is indestructible in the race. Moral creeds which speak to that impulse will be widely successful in spite of inconsistency, vagueness, and shadowy determination of expectancy. Man needs a rule for his will, and will invent one if one be not given him.

But now observe a most important consequence. Men's active impulses are so differently mixed that a philosophy fit in this respect for Bismarck will almost certainly be unfit for a valetudinarian poet. In other words, although one can lay down in advance the rule that a philosophy which utterly denies all fundamental ground for seriousness, for effort, for hope, which says the nature of things is radically alien to human nature, can never succeed—one cannot in advance say what particular dose of hope, or of gnosticism of the nature of things, the definitely successful philosophy shall contain. In short, it is almost certain that personal temperament will here make itself felt, and that although
all men will insist on being spoken to by the universe in some way, few will insist on being spoken to in just the same way. We have here, in short, the sphere of what Matthew Arnold likes to call *Aberglaube*, legitimate, inexpugnable, yet doomed to eternal variations and disputes.

Take idealism and materialism as examples of what I mean, and suppose for a moment that both give a conception of equal theoretic clearness and consistency, and that both determine our expectations equally well. Idealism will be chosen by a man of one emotional constitution, materialism by another. At this very day all sentimental natures, fond of conciliation and intimacy, tend to an idealistic faith. Why? Because idealism gives to the nature of things such kinship with our personal selves. Our own thoughts are what we are most at home with, what we are least afraid of. To say then that the universe essentially is thought, is to say that I myself, potentially at least, am all. There is no radically alien corner, but an all-pervading intimacy. Now, in certain sensitively egotistic minds this conception of reality is sure to put on a narrow, close, sickroom air. Everything sentimental and priggish will be consecrated by it. That element in reality which every strong man of common-sense willingly feels there because it calls forth powers that he owns—the rough, harsh, seawave, north-wind element, the denier of persons, the democratizer—is banished because it jars too much on the desire for communion. Now, it is the very enjoyment of this element that throws many men upon the materialistic or agnostic hypothesis, as a polemic reaction against the contrary extreme. They sicken at a life wholly constituted of intimacy. There is an overpowering desire at moments to escape personality, to revel in the action of forces that have no respect for our ego, to let the tides flow, even though they flow over us. The strife of these two kinds of mental temper will, I think, always be seen in philosophy. Some men will keep insisting on the reason, the atonement, that lies in
the heart of things, and that we can act with; others, on the opacity of brute fact that we must react against.

Now, there is one element of our active nature which the Christian religion has emphatically recognized, but which philosophers as a rule have with great insincerity tried to huddle out of sight in their pretension to found systems of absolute certainty. I mean the element of faith. Faith means belief in something concerning which doubt is still theoretically possible; and as the test of belief is willingness to act, one may say that faith is the readiness to act in a cause the prosperous issue of which is not certified to us in advance. It is in fact the same moral quality which we call courage in practical affairs; and there will be a very widespread tendency in men of vigorous nature to enjoy a certain amount of uncertainty in their philosophic creed, just as risk lends a zest to worldly activity. Absolutely certified philosophies seeking the inconcussum are fruits of mental natures in which the passion for identity (which we saw to be but one factor of the rational appetite) plays an abnormally exclusive part. In the average man, on the contrary, the power to trust, to risk a little beyond the literal evidence, is an essential function. Any mode of conceiving the universe which makes an appeal to this generous power, and makes the man seem as if he were individually helping to create the actuality of the truth whose metaphysical reality he is willing to assume, will be sure to be responded to by large numbers.

The necessity of faith as an ingredient in our mental attitude is strongly insisted on by the scientific philosophers of the present day; but by a singularly arbitrary caprice they say that it is only legitimate when used in the interests of one particular proposition—the proposition, namely, that the course of nature is uniform. That nature will follow to-morrow the same laws that she follows to-day is, they all admit, a truth which no man can know; but in the interests of cognition as well as of action we must postulate
or assume it. As Helmholtz says: “Hier gilt nur der eine Rath: vertraue und handle!” And Professor Bain urges: “Our only error is in proposing to give any reason or justification of the postulate, or to treat it as otherwise than begged at the very outset.”

With regard to all other possible truths, however, a number of our most influential contemporaries think that an attitude of faith is not only illogical but shameful. Faith in a religious dogma for which there is no outward proof, but which we are tempted to postulate for our emotional interests, just as we postulate the uniformity of nature for our intellectual interests, is branded by Professor Huxley as “the lowest depth of immorality.” Citations of this kind from leaders of the modern Aufklärung might be multiplied almost indefinitely. Take Professor Clifford’s article on the “Ethics of Belief.” He calls it “guilt” and “sin” to believe even the truth without “scientific evidence.” But what is the use of being a genius, unless with the same scientific evidence as other men, one can reach more truth than they? Why does Clifford fearlessly proclaim his belief in the conscious-automaton theory, although the “proofs” before him are the same which make Mr. Lewes reject it? Why does he believe in primordial units of “mind-stuff” on evidence which would seem quite worthless to Professor Bain? Simply because, like every human being of the slightest mental originality, he is peculiarly sensitive to evidence that bears in some one direction. It is utterly hopeless to try to exorcise such sensitiveness by calling it the disturbing subjective factor, and branding it as the root of all evil. “Subjective” be it called! and “disturbing” to those whom it foils! But if it helps those who, as Cicero says, “vim naturæ magis sentiunt,” it is good and not evil. Pretend what we may, the whole man within us is at work when we form our philosophical opinions. Intellect, will, taste, and passion co-operate just as they do in practical affairs; and lucky it is if the passion be not something as petty as a love of personal conquest over the philosopher
across the way. The absurd abstraction of an intellect verbally formulating all its evidence and carefully estimating the probability thereof by a vulgar fraction by the size of whose denominator and numerator alone it is swayed, is ideally as inept as it is actually impossible. It is almost incredible that men who are themselves working philosophers should pretend that any philosophy can be, or ever has been, constructed without the help of personal preference, belief, or divination. How have they succeeded in so stultifying their sense for the living facts of human nature as not to perceive that every philosopher, or man of science either, whose initiative counts for anything in the evolution of thought, has taken his stand on a sort of dumb conviction that the truth must lie in one direction rather than another, and a sort of preliminary assurance that his notion can be made to work; and has borne his best fruit in trying to make it work? These mental instincts in different men are the spontaneous variations upon which the intellectual struggle for existence is based. The fittest conceptions survive, and with them the names of their champions shining to all futurity.

The coil is about us, struggle as we may. The only escape from faith is mental nullity. What we enjoy most in a Huxley or a Clifford is not the professor with his learning, but the human personality ready to go in for what it feels to be right, in spite of all appearances. The concrete man has but one interest—to be right. That for him is the art of all arts, and all means are fair which help him to it. Naked he is flung into the world, and between him and nature there are no rules of civilized warfare. The rules of the scientific game, burdens of proof, presumptions, experimenta crucis, complete inductions, and the like, are only binding on those who enter that game. As a matter of fact we all more or less do enter it, because it helps us to our end. But if the means presume to frustrate the end and call us cheats for being right in advance of their slow aid, by guesswork or by hook or crook, what shall we say of them? Were all
of Clifford's works, except the *Ethics of Belief*, forgotten, he might well figure in future treatises on psychology in place of the somewhat threadbare instance of the miser who has been led by the association of ideas to prefer his gold to all the goods he might buy therewith.

In short, if I am born with such a superior general reaction to evidence that I can guess right and act accordingly, and gain all that comes of right action, while my less gifted neighbour (paralyzed by his scruples and waiting for more evidence which he dares not anticipate, much as he longs to) still stands shivering on the brink, by what law shall I be forbidden to reap the advantages of my superior native sensitiveness? Of course I yield to my belief in such a case as this or distrust it, alike at my peril, just as I do in any of the great practical decisions of life. If my inborn faculties are good, I am a prophet; if poor, I am a failure: nature spews me out of her mouth, and there is an end of me. In the total game of life we stake our persons all the while; and if in its theoretic part our persons will help us to a conclusion, surely we should also stake them there, however inarticulate they may be.\(^1\)

But in being myself so very articulate in proving what to all readers with a sense for reality will seem a platitude, am I not wasting words? We cannot live or think at all without some degree of faith. Faith is synonymous with

\(^1\) At most, the command laid upon us by science to believe nothing not yet verified by the senses is a prudential rule intended to maximize our right thinking and minimize our errors *in the long run*. In the particular instance we must frequently lose truth by obeying it; but on the whole we are safer if we follow it consistently, for we are sure to cover our losses with our gains. It is like those gambling and insurance rules based on probability, in which we secure ourselves against losses in detail by hedging on the total run. But this hedging philosophy requires that long run should be there; and this makes it inapplicable to the question of religious faith as the latter comes home to the individual man. He plays the game of life not to escape losses, for he brings nothing with him to lose; he plays it for gains; and it is now or never with him, for the long run which exists indeed for humanity, is not there for him. Let him doubt, believe, or deny, he runs his risk, and has the natural right to choose which one it shall be.
working hypothesis. The only difference is that while some hypotheses can be refuted in five minutes, others may defy ages. A chemist who conjectures that a certain wall-paper contains arsenic, and has faith enough to lead him to take the trouble to put some of it into a hydrogen bottle, finds out by the results of his action whether he was right or wrong. But theories like that of Darwin, or that of the kinetic constitution of matter, may exhaust the labours of generations in their corroboration, each tester of their truth proceeding in this simple way—that he acts as if it were true, and expects the result to disappoint him if his assumption is false. The longer disappointment is delayed, the stronger grows his faith in his theory.

Now, in such questions as God, immortality, absolute morality, and free-will, no non-papal believer at the present day pretends his faith to be of an essentially different complexion; he can always doubt his creed. But his intimate persuasion is that the odds in its favour are strong enough to warrant him in acting all along on the assumption of its truth. His corroboration or repudiation by the nature of things may be deferred until the day of judgment. The uttermost he now means is something like this: “I expect then to triumph with tenfold glory; but if it should turn out, as indeed it may, that I have spent my days in a fool’s paradise, why, better have been the dupe of such a dreamland than the cunning reader of a world like that which then beyond all doubt unmask itself to view.” In short, we go in against materialism very much as we should go in, had we a chance, against the second French empire or the Church of Rome, or any other system of things toward which our repugnance is vast enough to determine energetic action, but too vague to issue in distinct argumentation. Our reasons are ludicrously incommensurate with the volume of our feeling, yet on the latter we unhappily act.

Now, I wish to show what to my knowledge has never
been clearly pointed out, that belief (as measured by action) not only does and must continually outstrip scientific evidence, but that there is a certain class of truths of whose reality belief is a factor as well as a confessor; and that as regards this class of truths faith is not only licit and pertinent, but essential and indispensable. The truths cannot become true till our faith has made them so.

Suppose, for example, that I am climbing in the Alps and have had the ill-luck to work myself into a position from which the only escape is by a terrible leap. Being without similar experience, I have no evidence of my ability to perform it successfully; but hope and confidence in myself make me sure I shall not miss my aim, and nerve my feet to execute what without those subjective emotions would perhaps have been impossible. But suppose that, on the contrary, the emotions of fear and mistrust preponderate; or suppose that, having just read the Ethics of Belief, I feel it would be sinful to act upon an assumption unverified by previous experience—why, then I shall hesitate so long that at last, exhausted and trembling, and launching myself in a moment of despair, I miss my foothold and roll into the abyss. In this case (and it is one of an immense class) the part of wisdom clearly is to believe what one desires; for the belief is one of the indispensable preliminary conditions of the realization of its object. There are then cases where faith creates its own verification. Believe, and you shall be right, for you shall save yourself; doubt, and you shall again be right, for you shall perish. The only difference is that to believe is greatly to your advantage.

The future movements of the stars or the facts of past history are determined now once for all, whether I like them or not. They are given irrespective of my wishes, and in all that concerns truths like these subjective preference should have no part; it can only obscure the judgment. But in every fact into which there enters an element of personal contribution on my part, as soon as this personal contri-
bution demands a certain degree of subjective energy which, in its turn, calls for a certain amount of faith in the result—so that, after all, the future fact is conditioned by my present faith in it—how trebly asinine would it be for me to deny myself the use of the subjective method, the method of belief based on desire!

In every proposition whose bearing is universal (and such are all the propositions of philosophy), the acts of the subject and their consequences throughout eternity should be included in the formula. If $M$ represent the entire world minus the reaction of the thinker upon it, and if $M + x$ represent the absolutely total matter of philosophic propositions ($x$ standing for the thinker's reaction and its results)—what would be a universal truth if the term $x$ were of one complexion, might become egregious error if $x$ altered its character. Let it not be said that $x$ is too infinitesimal a component to change the character of the immense whole in which it lies imbedded. Everything depends on the point of view of the philosophic proposition in question. If we have to define the universe from the point of view of sensibility, the critical material for our judgment lies in the animal kingdom, insignificant as that is, quantitatively considered. The moral definition of the world may depend on phenomena more restricted still in range. In short, many a long phrase may have its sense reversed by the addition of three letters, $n-o-t$; many a monstrous mass have its unstable equilibrium discharged one way or the other by a feather weight that falls.

Let us make this clear by a few examples. The philosophy of evolution offers us to-day a new criterion to serve as an ethical test between right and wrong. Previous criteria, it says, being subjective, have left us still floundering in variations of opinion and the status belli. Here is a criterion which is objective and fixed: That is to be called good which is destined to prevail or survive. But we immediately see that this standard can only remain objective by leaving myself and my conduct out. If what prevails and survives
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does so by my help, and cannot do so without that help; if something else will prevail in case I alter my conduct—how can I possibly now, conscious of alternative courses of action open before me, either of which I may suppose capable of altering the path of events, decide which course to take by asking what path events will follow? If they follow my direction, evidently my direction cannot wait on them. The only possible manner in which an evolutionist can use his standard is the obsequious method of forecasting the course society would take but for him, and then putting an extinguisher on all personal idiosyncrasies of desire and interest, and with bated breath and tiptoe tread following as straight as may be at the tail, and bringing up the rear of everything. Some pious creatures may find a pleasure in this; but not only does it violate our general wish to lead and not to follow (a wish which is surely not immoral if we but lead aright), but if it be treated as every ethical principle must be treated—namely, as a rule good for all men alike—its general observance would lead to its practical refutation by bringing about a general deadlock. Each good man hanging back and waiting for orders from the rest, absolute stagnation would ensue. Happy, then, if a few unrighteous ones contribute an initiative which sets things moving again!

All this is no caricature. That the course of destiny may be altered by individuals no wise evolutionist ought to doubt. Everything for him has small beginnings, has a bud which may be “nipped,” and nipped by a feeble force. Human races and tendencies follow the law, and have also small beginnings. The best, according to evolution, is that which has the biggest endings. Now, if a present race of men, enlightened in the evolutionary philosophy, and able to forecast the future, were able to discern in a tribe arising near them the potentiality of future supremacy; were able to see that their own race would eventually be wiped out of existence by the new-comers if the expansion of these were left unmolested—these present sages would have two
courses open to them, either perfectly in harmony with the evolutionary test: Strangle the new race *now*, and ours survives; help the new race, and *it* survives. In both cases the action is right as measured by the evolutionary standard—it is action for the winning side.

Thus the evolutionist foundation of ethics is purely objective only to the herd of nullities whose votes count for zero in the march of events. But for others, leaders of opinion or potentates, and in general those to whose actions position or genius gives a far-reaching import, and to the rest of us, each in his measure—whenever we espouse a cause we contribute to the determination of the evolutionary standard of right. The truly wise disciple of this school will then admit faith as an ultimate ethical factor. Any philosophy which makes such questions as, What is the ideal type of humanity? What shall be reckoned virtues? What conduct is good? depend on the question, What is going to succeed?—must needs fall back on personal belief as one of the ultimate conditions of the truth. For again and again success depends on energy of act; energy again depends on faith that we shall not fail; and that faith in turn on the faith that we are right—which faith thus verifies itself.

Take as an example the question of optimism or pessimism, which makes so much noise just now in Germany. Every human being must sometime decide for himself whether life is worth living. Suppose that in looking at the world and seeing how full it is of misery, of old age, of wickedness and pain, and how unsafe is his own future, he yields to the pessimistic conclusion, cultivates disgust and dread, ceases striving, and finally commits suicide. He thus adds to the mass $M$ of mundane phenomena, independent of his subjectivity, the subjective complement $x$, which makes of the whole an utterly black picture illumined by no gleam of good. Pessimism completed, verified by his moral reaction and the deed in which this ends, is true beyond a doubt. $M + x$ expresses a state of things totally bad. The man's belief supplied all that was lacking to
make it so, and now that it is made so the belief was right.

But now suppose that with the same evil facts \( M \), the man's reaction \( x \) is exactly reversed; suppose that instead of giving way to the evil he braves it, and finds a stern, more wonderful joy than any passive pleasure can yield in triumphing over pain and defying fear; suppose he does this successfully, and however thickly evils crowd upon him proves his dauntless subjectivity to be more than their match—will not every one confess that the bad character of the \( M \) is here the conditio sine qua non of the good character of the \( x \)? Will not every one instantly declare a world fitted only for fair-weather human beings susceptible of every passive enjoyment, but without independence, courage, or fortitude, to be from a moral point of view incommensurably inferior to a world framed to elicit from the man every form of triumphant endurance and conquering moral energy? As James Hinton says:—

"Little inconveniences, exertions, pains—these are the only things in which we rightly feel our life at all. If these be not there, existence becomes worthless, or worse; success in putting them all away is fatal. So it is men engage in athletic sports, spend their holidays in climbing up mountains, find nothing so enjoyable as that which taxes their endurance and their energy. This is the way we are made, I say. It may or may not be a mystery or a paradox; it is a fact. Now, this enjoyment in endurance is just according to the intensity of life: the more physical vigour and balance, the more endurance can be made an element of satisfaction. A sick man cannot stand it. The line of enjoyable suffering is not a fixed one; it fluctuates with the perfectness of the life. That our pains are, as they are, unendurable, awful, overwhelming, crushing, not to be borne save in misery and dumb impatience, which utter exhaustion alone makes patient—that our pains are thus unendurable, means not that they are too great but that we are sick. We have not got our proper life. So you perceive pain is no
more necessarily an evil, but an essential element of the highest good."  

But the highest good can be achieved only by our getting our proper life; and that can come about only by help of a moral energy born of the faith that in some way or other we shall succeed in getting it if we try pertinaciously enough. This world is good, we must say, since it is what we make it—and we shall make it good. How can we exclude from the cognition of a truth a faith which is involved in the creation of the truth? $M$ has its character indeterminate, susceptible of forming part of a thorough-going pessimism on the one hand, or of a meliorism, a moral (as distinguished from a sensual) optimism on the other. All depends on the character of the personal contribution $x$. Wherever the facts to be formulated contain such a contribution, we may logically, legitimately, and inexpugnably believe what we desire. The belief creates its verification. The thought becomes literally father to the fact, as the wish was father to the thought.  

Let us now turn to the radical question of life—the question whether this be at bottom a moral or an unmoral universe—and see whether the method of faith may legitimately have a place there. It is really the question of materialism. Is the world a simple brute actuality, an existence de facto about which the deepest thing that can be said is that it happens so to be; or is the judgment of better or

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1 *Life of James Hinton*, pp. 172, 173. See also the excellent chapter on "Faith and Sight" in *The Mystery of Matter*, by J. Allanson Picton. Hinton's *Mystery of Pain* will undoubtedly always remain the classical utterance on this subject.

2 Observe that in all this not a word has been said of free-will. It all applies as well to a predetermined as to an indeterminate universe. If $M+x$ is fixed in advance, the belief which leads to $x$ and the desire which prompts the belief are also fixed. But fixed or not, these subjective states form a phenomenal condition necessarily preceding the facts; necessarily constitutive, therefore, of the truth $M+x$ which we seek. If, however, free acts be possible, a faith in their possibility, by augmenting the moral energy which gives them birth, will increase their frequency in a given individual.
worse, of ought, as intimately pertinent to phenomena as the simple judgment is or is not? The materialistic theorists say that judgments of worth are themselves mere matters of fact; that the words "good" and "bad" have no sense apart from subjective passions and interests which we may, if we please, play fast and loose with at will, so far as any duty of ours to the non-human universe is concerned. Thus, when a materialist says it is better for him to suffer great inconvenience than to break a promise, he only means that his social interests have become so knit up with keeping faith that, those interests once being granted, it is better for him to keep the promise in spite of everything. But the interests themselves are neither right nor wrong, except possibly with reference to some ulterior order of interests which themselves again are mere subjective data without character, either good or bad.

For the absolute moralists, on the contrary, the interests are not there merely to be felt—they are to be believed in and obeyed. Not only is it best for my social interests to keep my promise, but best for me to have those interests, and best for the cosmos to have this me. Like the old woman in the story who described the world as resting on a rock, and then explained that rock to be supported by another rock, and finally when pushed with questions said it was rocks all the way down—he who believes this to be a radically moral universe must hold the moral order to rest either on an absolute and ultimate should, or on a series of shoulds all the way down.1

The practical difference between this objective sort of moralist and the other one is enormous. The subjectivist in morals, when his moral feelings are at war with the facts about him, is always free to seek harmony by toning down the sensitiveness of the feelings. Being mere data, neither good nor evil in themselves, he may pervert them or lull

1 In either case, as a later essay explains, the should which the moralist regards as binding upon him must be rooted in the feeling of some other thinker, or collection of thinkers, to whose demands he individually bows.
them to sleep by any means at his command. Truckling, compromise, time-serving, capitulations of conscience, are conventionally opprobrious names for what, if successfully carried out, would be on his principles by far the easiest and most praiseworthy mode of bringing about that harmony between inner and outer relations which is all that he means by good. The absolute moralist, on the other hand, when his interests clash with the world, is not free to gain harmony by sacrificing the ideal interests. According to him, these latter should be as they are and not otherwise. Resistance then, poverty, martyrdom if need be, tragedy in a word—such are the solemn feasts of his inward faith. Not that the contradiction between the two men occurs every day; in commonplace matters all moral schools agree. It is only in the lonely emergencies of life that our creed is tested: then routine maxims fail, and we fall back on our gods. It cannot then be said that the question, Is this a moral world? is a meaningless and unverifiable question because it deals with something non-phenomenal. Any question is full of meaning to which, as here, contrary answers lead to contrary behaviour. And it seems as if in answering such a question as this we might proceed exactly as does the physical philosopher in testing an hypothesis. He deduces from the hypothesis an experimental action, $x$; this he adds to the facts $M$ already existing. It fits them if the hypothesis be true; if not, there is discord. The results of the action corroborate or refute the idea from which it flowed. So here: the verification of the theory which you may hold as to the objectively moral character of the world can consist only in this—that if you proceed to act upon your theory it will be reversed by nothing that later turns up as your action's fruit; it will harmonize so well with the entire drift of experience that the latter will, as it were, adopt it, or at most give it an ampler interpretation, without obliging you in any way to change the essence of its formulation. If this be an objectively moral universe, all acts that I make on that assumption, all expectations that I ground on
it, will tend more and more completely to interdigitate with the phenomena already existing. $M+x$ will be in accord; and the more I live, and the more the fruits of my activity come to light, the more satisfactory the consensus will grow. While if it be not such a moral universe, and I mistakenly assume that it is, the course of experience will throw ever new impediments in the way of my belief, and become more and more difficult to express in its language. Epicycle upon epicycle of subsidiary hypothesis will have to be invoked to give to the discrepant terms a temporary appearance of squaring with each other; but at last even this resource will fail.

If, on the other hand, I rightly assume the universe to be not moral, in what does my verification consist? It is that by letting moral interests sit lightly, by disbelieving that there is any duty about them (since duty obtains only as between them and other phenomena), and so throwing them over if I find it hard to get them satisfied—it is that by refusing to take up a tragic attitude, I deal in the long-run most satisfactorily with the facts of life. "All is vanity" is here the last word of wisdom. Even though in certain limited series there may be a great appearance of seriousness, he who in the main treats things with a degree of good-natured scepticism and radical levity will find that the practical fruits of his epicurean hypothesis verify it more and more, and not only save him from pain but do honour to his sagacity. While, on the other hand, he who contrary to reality stiffens himself in the notion that certain things absolutely should be, and rejects the truth that at bottom it makes no difference what is, will find himself evermore thwarted and perplexed and bemuddled by the facts of the world, and his tragic disappointment will, as experience accumulates, seem to drift farther and farther away from that final atonement or reconciliation which certain partial tragedies often get.

_Anæsthesia_ is the watchword of the moral sceptic brought to bay and put to his trumps. _Energy_ is that of the moralist.
Act on my creed, cries the latter, and the results of your action will prove the creed true, and that the nature of things is earnest infinitely. Act on mine, says the epicurean and the results will prove that seriousness is but a superficial glaze upon a world of fundamentally trivial import. You and your acts and the nature of things will be alike enveloped in a single formula, a universal vanitas vanitatum.

For the sake of simplicity I have written as if the verification might occur in the life of a single philosopher—which is manifestly untrue, since the theories still face each other, and the facts of the world give countenance to both. Rather should we expect, that, in a question of this scope, the experience of the entire human race must make the verification, and that all the evidence will not be "in" till the final integration of things, when the last man has had his say and contributed his share to the still unfinished x. Then the proof will be complete; then it will appear without doubt whether the moralistic x has filled up the gap which alone kept the M of the world from forming an even and harmonious unity, or whether the non-moralistic x has given the finishing touches which were alone needed to make the M appear outwardly as vain as it inwardly was.

But if this be so, is it not clear that the facts M, taken per se, are inadequate to justify a conclusion either way in advance of my action? My action is the complement which, by proving congruous or not, reveals the latent nature of the mass to which it is applied. The world may in fact be likened unto a lock, whose inward nature, moral or unmoral, will never reveal itself to our simply expectant gaze. The positivists, forbidding us to make any assumptions regarding it, condemn us to eternal ignorance, for the "evidence" which they wait for can never come so long as we are passive. But nature has put into our hands two keys, by which we may test the lock. If we try the moral key
The Sentiment of Rationality

and it fits, it is a moral lock. If we try the unmoral key and it fits, it is an unmoral lock. I cannot possibly conceive of any other sort of "evidence" or "proof" than this. It is quite true that the co-operation of generations is needed to educe it. But in these matters the solidarity (so called) of the human race is a patent fact. The essential thing to notice is that our active preference is a legitimate part of the game—that it is our plain business as men to try one of the keys, and the one in which we most confide. If then the proof exist not till I have acted, and I must needs in acting run the risk of being wrong, how can the popular science professors be right in objugrating in me as infamous a "credulity" which the strict logic of the situation requires? If this really be a moral universe; if by my acts I be a factor of its destinies; if to believe where I may doubt be itself a moral act analogous to voting for a side not yet sure to win—by what right shall they close in upon me and steadily negate the deepest conceivable function of my being by their preposterous command that I shall stir neither hand nor foot, but remain balancing myself in eternal and insoluble doubt? Why, doubt itself is a decision of the widest practical reach, if only because we may miss by doubting what goods we might be gaining by espousing the winning side. But more than that! it is often practically impossible to distinguish doubt from dogmatic negation. If I refuse to stop a murder because I am in doubt whether it be not justifiable homicide, I am virtually abetting the crime. If I refuse to bale out a boat because I am in doubt whether my efforts will keep her afloat, I am really helping to sink her. If in the mountain precipice I doubt my right to risk a leap, I actively connive at my destruction. He who commands himself not to be credulous of God, of duty, of freedom, of immortality, may again and again be indistinguishable from him who dogmatically denies them. Scepticism in moral matters is an active ally of immorality. Who is not for is against. The universe will have no neutrals in these questions. In theory as in practice, dodge or hedge.
or talk as we like about a wise scepticism, we are really doing volunteer military service for one side or the other. Yet obvious as this necessity practically is, thousands of innocent magazine readers lie paralyzed and terrified in the network of shallow negations which the leaders of opinion have thrown over their souls. All they need to be free and hearty again in the exercise of their birthright is that these fastidious vetoes should be swept away. All that the human heart wants is its chance. It will willingly forego certainty in universal matters if only it can be allowed to feel that in them it has that same inalienable right to run risks which no one dreams of refusing to it in the pettiest practical affairs. And if I, in these last pages, like the mouse in the fable, have gnawed a few of the strings of the sophistical net that has been binding down its lion-strength, I shall be more than rewarded for my pains.

To sum up: No philosophy will permanently be deemed rational by all men which (in addition to meeting logical demands) does not to some degree pretend to determine expectancy, and in a still greater degree make a direct appeal to all those powers of our nature which we hold in highest esteem. Faith, being one of these powers, will always remain a factor not to be banished from philosophic constructions, the more so since in many ways it brings forth its own verification. In these points, then, it is hopeless to look for literal agreement among mankind.

The ultimate philosophy, we may therefore conclude, must not be too strait-laced in form, must not in all its parts divide heresy from orthodoxy by too sharp a line. There must be left over and above the propositions to be subscribed, ubique, semper, et ab omnibus, another realm into which the stifled soul may escape from pedantic scruples and indulge its own faith at its own risks; and all that can here be done will be to mark out distinctly the questions which fall within faith's sphere.
GREAT MEN AND THEIR ENVIRONMENT

A REMARKABLE parallel, which I think has never been noticed, obtains between the facts of social evolution on the one hand, and of zoological evolution as expounded by Mr. Darwin on the other.

It will be best to prepare the ground for my thesis by a few very general remarks on the method of getting at scientific truth. It is a common platitude that a complete acquaintanceship with any one thing, however small, would require a knowledge of the entire universe. Not a sparrow falls to the ground but some of the remote conditions of his fall are to be found in the milky way, in our federal constitution, or in the early history of Europe. That is to say, alter the milky way, alter the federal constitution, alter the facts of our barbarian ancestry, and the universe would so far be a different universe from what it now is. One fact involved in the difference might be that the particular little street-boy who threw the stone which brought down the sparrow might not find himself opposite the sparrow at that particular moment; or, finding himself there, he might not be in that particular serene and disengaged mood of mind which expressed itself in throwing the stone. But, true as all this is, it would be very foolish for any one who was inquiring the cause of the sparrow's fall to overlook the boy as too personal, proximate, and, so to speak, anthropomorphic an agent, and to say that the true cause is the federal constitution, the westward migration of the Celtic race, or the structure of the milky way. If we pro-

ceeded on that method, we might say with perfect legitimacy that a friend of ours, who had slipped on the ice upon his doorstep and cracked his skull, some months after dining with thirteen at the table, died because of that ominous feast. I know, in fact, one such instance; and I might, if I chose, contend with perfect logical propriety that the slip on the ice was no real accident. "There are no accidents," I might say, "for science. The whole history of the world converged to produce that slip. If anything had been left out, the slip would not have occurred just there and then. To say it would is to deny the relations of cause and effect throughout the universe. The real cause of the death was not the slip, **but the conditions which engendered the slip**—and among them his having sat at a table, six months previous, one among thirteen. *That is truly the reason why he died within the year.*"

It will soon be seen whose arguments I am, in form, reproducing here. I would fain lay down the truth without polemics or recrimination. But unfortunately we never fully grasp the import of any true statement until we have a clear notion of what the opposite untrue statement would be. The error is needed to set off the truth, much as a dark background is required for exhibiting the brightness of a picture. And the error which I am going to use as a foil to set off what seems to me the truth of my own statements is contained in the philosophy of Mr. Herbert Spencer and his disciples. Our problem is, What are the causes that make communities change from generation to generation—that make the England of Queen Anne so different from the England of Elizabeth, the Harvard College of to-day so different from that of thirty years ago?

I shall reply to this problem, The difference is due to the accumulated influences of individuals, of their examples, their initiatives, and their decisions. The Spencerian school replies, The changes are irrespective of persons, and independent of individual control. They are due to the environment, to the circumstances, the physical geography, the
ancestral conditions, the increasing experience of outer relations; to everything, in fact, except the Grants and the Bismarcks, the Joneses, and the Smiths.

Now, I say that these theorizers are guilty of precisely the same fallacy as he who should ascribe the death of his friend to the dinner with thirteen, or the fall of the sparrow to the milky way. Like the dog in the fable, who drops his real bone to snatch at its image, they drop the real causes to snatch at others, which from no possible human point of view are available or attainable. Their fallacy is a practical one. Let us see where it lies. Although I believe in free-will myself, I will waive that belief in this discussion, and assume with the Spencerians the predestination of all human actions. On that assumption I gladly allow that were the intelligence investigating the man’s or the sparrow’s death omniscient and omnipresent, able to take in the whole of time and space at a single glance, there would not be the slightest objection to the milky way or the fatal feast being invoked among the sought-for causes. Such a divine intelligence would see instantaneously all the infinite lines of convergence towards a given result, and it would, moreover, see impartially: it would see the fatal feast to be as much a condition of the sparrow’s death as of the man’s; it would see the boy with the stone to be as much a condition of the man’s fall as of the sparrow’s.

The human mind, however, is constituted on an entirely different plan. It has no such power of universal intuition. Its finiteness obliges it to see but two or three things at a time. If it wishes to take wider sweeps it has to use “general ideas,” as they are called, and in so doing to drop all concrete truths. Thus, in the present case, if we as men wish to feel the connection between the milky way and the boy and the dinner and the sparrow and the man’s death, we can do so only by falling back on the enormous emptiness of what is called an abstract proposition. We must say, All things in the world are fatally predetermined, and hang
together in the adamantine fixity of a system of natural law. But in the vagueness of this vast proposition we have lost all the concrete facts and links; and in all practical matters the concrete links are the only things of importance. The human mind is essentially partial. It can be efficient at all only by picking out what to attend to and ignoring everything else—by narrowing its point of view. Otherwise, what little strength it has is dispersed, and it loses its way altogether. Man always wants his curiosity gratified for a particular purpose. If, in the case of the sparrow, the purpose is punishment, it would be idiotic to wander off from the cats, boys, and other possible agencies close by in the street, to survey the early Celts and the milky way: the boy would meanwhile escape. And if, in the case of the unfortunate man, we lose ourselves in contemplation of the thirteen-at-table mystery, and fail to notice the ice on the step and cover it with ashes, some other poor fellow, who never dined out in his life, may slip on it in coming to the door, and fall and break his head too.

It is, then, a necessity laid upon us as human beings to limit our view. In mathematics we know how this method of ignoring and neglecting quantities lying outside of a certain range has been adopted in the differential calculus. The calculator throws out all the "infinitesimals" of the quantities he is considering. He treats them (under certain rules) as if they did not exist. In themselves they exist perfectly all the while; but they are as if they did not exist for the purposes of his calculation. Just so an astronomer, in dealing with the tidal movements of the ocean, takes no account of the waves made by the wind, or by the pressure of all the steamers which day and night are moving their thousands of tons upon its surface. Just so the marksman, in sighting his rifle, allows for the motion of the wind but not for the equally real motion of the earth and solar system. Just so a business man's punctuality may overlook an error of five minutes, while a physicist, measuring the velocity of light, must count each thousandth of a second.
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There are, in short, different cycles of operation in nature; different departments, so to speak, relatively independent of one another, so that what goes on at any moment in one may be compatible with almost any condition of things at the same time in the next. The mould on the biscuit in the store-room of a man-of-war vegetates in absolute indifference to the nationality of the flag, the direction of the voyage, the weather, and the human dramas that may go on on board; and a mycologist may study it in complete abstraction from all these larger details. Only by so studying it, in fact, is there any chance of the mental concentration by which alone he may hope to learn something of its nature. On the other hand, the captain who in manœuvring the vessel through a naval fight should think it necessary to bring the mouldy biscuit into his calculations would very likely lose the battle by reason of the excessive “thoroughness” of his mind.

The causes which operate in these incommensurable cycles are connected with one another only if we take the whole universe into account. For all lesser points of view it is lawful—nay, more, it is for human wisdom necessary—to regard them as disconnected and irrelevant to one another.

And this brings us nearer to our special topic. If we look at an animal or a human being, distinguished from the rest of his kind by the possession of some extraordinary peculiarity, good or bad, we shall be able to discriminate between the causes which originally produced the peculiarity in him and the causes that maintain it after it is produced; and we shall see, if the peculiarity be one that he was born with, that these two sets of causes belong to two such irrelevant cycles. It was the triumphant originality of Darwin to see this, and to act accordingly. Separating the causes of production under the title of “tendencies to spontaneous variation,” and relegating them to a physiological cycle
which he forthwith agreed to ignore altogether,¹ he confined
his attention to the causes of preservation, and under the
names of natural selection and sexual selection studied them
exclusively as functions of the cycle of the environment.

Pre-Darwinian philosophers had also tried to establish
the doctrine of descent with modification; but they all
committed the blunder of clumping the two cycles of causa-
tion into one. What preserves an animal with his peculiarity,
if it be a useful one, they saw to be the nature of the environ-
ment to which the peculiarity was adjusted. The giraffe
with his peculiar neck is preserved by the fact that there
are in his environment tall trees whose leaves he can digest.
But these philosophers went further, and said that the
presence of the trees not only maintained an animal with
a long neck to browse upon their branches, but also pro-
duced him. They made his neck long by the constant
striving they aroused in him to reach up to them. The
environment, in short, was supposed by these writers to
mould the animal by a kind of direct pressure, very much
as a seal presses the wax into harmony with itself. Num-
erous instances were given of the way in which this goes
on under our eyes. The exercise of the forge makes the right
arm strong, the palm grows callous to the oar, the mountain
air distends the chest, the chased fox grows cunning and
the chased bird shy, the arctic cold stimulates the animal
combustion, and so forth. Now these changes, of which
many more examples might be adduced, are at present
distinguished by the special name of adaptive changes. Their
peculiarity is that that very feature in the environment to
which the animal's nature grows adjusted, itself produces the
adjustment. The "inner relation," to use Mr. Spencer's
phrase, "corresponds" with its own efficient cause.

¹ Darwin's theory of pangenesis is, it is true, an attempt to account
(among other things) for variation. But it occupies its own separate
place, and its author no more invokes the environment when he
talks of the adhesions of gemmules than he invokes these adhesions
when he talks of the relations of the whole animal to the environ-
ment. Divide et impera!
Great Men and their Environment

Darwin's first achievement was to show the utter insignificance in amount of these changes produced by direct adaptation, the immensely greater mass of changes being produced by internal molecular accidents, of which we know nothing. His next achievement was to define the true problem with which we have to deal when we study the effects of the visible environment on the animal. That problem is simply this: Is the environment more likely to preserve or to destroy him, on account of this or that peculiarity with which he may be born? In giving the name "of accidental variations" to those peculiarities with which an animal is born, Darwin does not for a moment mean to suggest that they are not the fixed outcome of natural law. If the total system of the universe be taken into account, the causes of these variations and the visible environment which preserves or destroys them, undoubtedly do, in some remote and roundabout way, hang together. What Darwin means is, that, since that environment is a perfectly known thing, and its relations to the organism in the way of destruction or preservation are tangible and distinct, it would utterly confuse our finite understandings and frustrate our hopes of science to mix in with it facts from such a disparate and incommensurable cycle as that in which the variations are produced. This last cycle is that of occurrences before the animal is born. It is the cycle of influences upon ova and embryos; in which lie the causes that tip them and tilt them towards masculinity or femininity, towards strength or weakness, towards health or disease, and towards divergence from the parent type. What are the causes there?

In the first place, they are molecular and invisible—inaccessible, therefore, to direct observation of any kind. Secondly, their operations are compatible with any social, political, and physical conditions of environment. The same parents, living in the same environing conditions, may at one birth produce a genius, at the next an idiot or a monster. The visible external conditions are therefore not
direct determinants of this cycle; and the more we consider the matter, the more we are forced to believe that two children of the same parents are made to differ from each other by causes as disproportionate to their ultimate effects as is the famous pebble on the Rocky Mountain crest, which separates two rain-drops, to the Gulf of St. Lawrence and the Pacific Ocean toward which it makes them severally flow.

The great mechanical distinction between transitive forces and discharging forces is nowhere illustrated on such a scale as in physiology. Almost all causes there are forces of detent, which operate by simply unlocking energy already stored up. They are upsetters of unstable equilibria, and the resultant effect depends infinitely more on the nature of the materials upset than on that of the particular stimulus which joggles them down. Galvanic work, equal to unity, done on a frog's nerve will discharge from the muscle to which the nerve belongs mechanical work equal to seventy thousand; and exactly the same muscular effect will emerge if other irritants than galvanism are employed. The irritant has merely started or provoked something which then went on of itself—as a match may start a fire which consumes a whole town. And qualitatively as well as quantitatively the effect may be absolutely incommensurable with the cause. We find this condition of things in all organic matter. Chemists are distracted by the difficulties which the instability of albuminoid compounds opposes to their study. Two specimens, treated in what outwardly seem scrupulously identical conditions, behave in quite different ways. You know about the invisible factors of fermentation, and how the fate of a jar of milk—whether it turn into a sour clot or a mass of koumiss—depends on whether the lactic acid ferment or the alcoholic is introduced first, and gets ahead of the other in starting the process. Now, when the result is the tendency of an ovum, itself invisible to the naked eye, to tip towards this direction or that in its further evolution—to bring forth a genius or a dunce, even as the rain-drop
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passes east or west of the pebble—is it not obvious that the deflected cause must lie in a region so recondite and minute, must be such a ferment of a ferment, an infinitesimal of so high an order, that surmise itself may never succeed even in attempting to frame an image of it?

Such being the case, was not Darwin right to turn his back upon that region altogether, and to keep his own problem carefully free from all entanglement with matters such as these? The success of his work is a sufficiently affirmative reply.

And this brings us at last to the heart of our subject. The causes of production of great men lie in a sphere wholly inaccessible to the social philosopher. He must simply accept geniuses as data, just as Darwin accepts his spontaneous variations. For him, as for Darwin, the only problem is, these data being given, How does the environment affect them, and how do they affect the environment? Now, I affirm that the relation of the visible environment to the great man is in the main exactly what it is to the "variation" in the Darwinian philosophy. It chiefly adopts or rejects, preserves or destroys, in short selects him.1 And whenever it adopts and preserves the great man, it becomes modified by his influence in an entirely original and peculiar way. He acts as a ferment, and changes its constitution, just as the advent of a new zoological species changes the faunal and floral equilibrium of the region in which it appears. We all recollect Mr. Darwin's famous statement of the influence of cats on the growth of clover in their neighbourhood. We all have read of the effects of the European rabbit in New Zealand, and we have many of us taken part in the controversy about the English sparrow here—whether he kills most canker-worms or drives away most native birds. Just so the

1 It is true that it remodels him, also, to some degree, by its eductive influence, and that this constitutes a considerable difference between the social case and the zoological case. I neglect this aspect of the relation here, for the other is the more important. At the end of the article I will return to it incidentally.
great man, whether he be an importation from without like Clive in India or Agassiz here, or whether he spring from
the soil like Mahomet or Franklin, brings about a rearrange-
ment, on a large or a small scale, of the pre-existing social
relations.

The mutations of societies, then, from generation to
generation, are in the main due directly or indirectly to the
acts or the example of individuals whose genius was so
adapted to the receptivities of the moment, or whose acci-
dental position of authority was so critical that they became
ferments, initiators of movement, setters of precedent or
fashion, centres of corruption, or destroyers of other persons,
whose gifts, had they had free play, would have led society
in another direction.

We see this power of individual initiative exemplified
on a small scale all about us, and on a large scale in the case
of the leaders of history. It is only following the common-
sense method of a Lyell, a Darwin, and a Whitney to inter-
pret the unknown by the known, and reckon up cumulatively
the only causes of social change we can directly observe.
Societies of men are just like individuals, in that both at any
given moment offer ambiguous potentialities of develop-
ment. Whether a young man enters business or the ministry
may depend on a decision which has to be made before a
certain day. He takes the place offered in the counting-house
and is committed. Little by little, the habits, the knowledges,
of the other career, which once lay so near, cease to be
reckoned even among his possibilities. At first, he may
sometimes doubt whether the self he murdered in that
decisive hour might not have been the better of the two;
but with the years such questions themselves expire, and the
old alternative ego, once so vivid, fades into something less
substantial than a dream. It is no otherwise with nations.
They may be committed by kings and ministers to peace or
war, by generals to victory or defeat, by prophets to this
religion or to that, by various geniuses to fame in art, science,
or industry. A war is a true point of bifurcation of future
possibilities. Whether it fail or succeed, its declaration must be the starting-point of new policies. Just so does a revolution, or any great civic precedent, become a deflecting influence, whose operations widen with the course of time. Communities obey their ideals; and an accidental success fixes an ideal, as an accidental failure blights it.

Would England have to-day the "imperial" ideal which she now has if a certain boy named Bob Clive had shot himself, as he tried to do, at Madras? Would she be the drifting raft she is now in European affairs if a Frederic the Great had inherited her throne instead of a Victoria, and it Mssrs. Bentham, Mill, Cobden, and Bright had all been born in Prussia? England has, no doubt, to-day precisely the same intrinsic value relatively to the other nations that she ever had. There is no such fine accumulation of human material upon the globe. But in England the material has lost effective form, while in Germany it has found it. Leaders give the form. Would England be crying forward and backward at once, as she does now, "letting I will not wait upon I would," wishing to conquer but not to fight, if her ideal had in all these years been fixed by a succession of statesmen of supremely commanding personality, working in one direction? Certainly not. She would have espoused, for better or worse, either one course or another. Had Bismarck died in his cradle, the Germans would still be satisfied with appearing to themselves as a race of spectacled Gelehrten and political herbivora, and to the French as ces bons, or ces naifs, Allemands. Bismarck's will showed them, to their own great astonishment, that they could play a far livelier game. The lesson will not be forgotten. Germany may have many vicissitudes, but they—

"will never do away, I ween,
The marks of that which once hath been"—

of Bismarck's initiative, namely, from 1860 to 1873.
The fermentative influence of geniuses must be admitted

1 The reader will remember when this was written.
as, at any rate, one factor in the changes that constitute social evolution. The community may evolve in many ways. The accidental presence of this or that ferment decides in which way it shall evolve. Why, the very birds of the forest, the parrot, the mino, have the power of human speech, but never develop it of themselves; some one must be there to teach them. So with us individuals. Rembrandt must teach us to enjoy the struggle of light with darkness, Wagner to enjoy peculiar musical effects; Dickens give a twist to our sentimentality, Artemus Ward to our humour; Emerson kindles a new moral light within us. But it is like Columbus's egg. "All can raise the flowers now, for all have got the seed." But if this be true of the individuals in the community, how can it be false of the community as a whole? If shown a certain way, a community may take it; if not, it will never find it. And the ways are to a large extent indeterminate in advance. A nation may obey either of many alternative impulses given by different men of genius, and still live and be prosperous, just as a man may enter either of many businesses. Only, the prosperities may differ in their type.

But the indeterminism is not absolute. Not every "man" fits every "hour." Some incompatibilities there are. A given genius may come either too early or too late. Peter the Hermit would now be sent to a lunatic asylum. John Mill in the tenth century would have lived and died unknown. Cromwell and Napoleon need their revolutions, Grant his civil war. An Ajax gets no fame in the day of telescopic-sighted rifles; and, to express differently an instance which Spencer uses, what could a Watt have effected in a tribe which no precursive genius had taught to smelt iron or to turn a lathe?

Now, the important thing to notice is that what makes a certain genius now incompatible with his surroundings is usually the fact that some previous genius of a different strain has warped the community away from the sphere of his possible effectiveness. After Voltaire, no Peter the
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Hermit; after Charles IX. and Louis XIV., no general protestantization of France; after a Manchester school, a Beaconsfield's success is transient; after a Philip II., a Castelar makes little headway; and so on. Each bifurcation cuts off certain sides of the field altogether, and limits the future possible angles of deflection. A community is a living thing, and in words which I can do no better than quote from Professor Clifford,¹ "it is the peculiarity of living things not merely that they change under the influence of surrounding circumstances, but that any change which takes place in them is not lost but retained, and as it were built into the organism to serve as the foundation for future actions. If you cause any distortion in the growth of a tree and make it crooked, whatever you may do afterwards to make the tree straight the mark of your distortion is there; it is absolutely indelible; it has become part of the tree's nature. . . . Suppose, however, that you take a lump of gold, melt it, and let it cool. . . . No one can tell by examining a piece of gold how often it has been melted and cooled in geologic ages, or even in the last year by the hand of man. Any one who cuts down an oak can tell by the rings in its trunk how many times winter has frozen it into widowhood, and how many times summer has warmed it into life. A living being must always contain within itself the history, not merely of its own existence, but of all its ancestors."

Every painter can tell us how each added line deflects his picture in a certain sense. Whatever lines follow must be built on those first laid down. Every author who starts to rewrite a piece of work knows how impossible it becomes to use any of the first-written pages again. The new beginning has already excluded the possibility of those earlier phrases and transitions, while it has at the same time created the possibility of an indefinite set of new ones, no one of which, however, is completely determined in advance. Just so the social surroundings of the past and present

¹ Lectures and Essays, i. 82.
hour exclude the possibility of accepting certain contributions from individuals; but they do not positively define what contributions shall be accepted, for in themselves they are powerless to fix what the nature of the individual offerings shall be.\footnote{Mr. Grant Allen himself, in an article from which I shall presently quote, admits that a set of people who, if they had been exposed ages ago to the geographical agencies of Timbuctoo, would have developed into negroes might now, after a protracted exposure to the conditions of Hamburg, never become negroes if transplanted to Timbuctoo.}

Thus social evolution is a resultant of the interaction of two wholly distinct factors—the individual, deriving his peculiar gifts from the play of physiological and infra-social forces, but bearing all the power of initiative and origination in his hands; and, second, the social environment, with its power of adopting or rejecting both him and his gifts. Both factors are essential to change. The community stagnates without the impulse of the individual. The impulse dies away without the sympathy of the community.

All this seems nothing more than common-sense. All who wish to see it developed by a man of genius should read that golden little work, Bagehot's *Physics and Politics*, in which (it seems to me) the complete sense of the way in which concrete things grow and change is as livingly present as the straining after a pseudo-philosophy of evolution is livingly absent. But there are never wanting minds to whom such views seem personal and contracted, and allied to an anthropomorphism long exploded in other fields of knowledge. "The individual withers, and the world is more and more," to these writers; and in a Buckle, a Draper, and a Taine we all know how much the "world" has come to be almost synonymous with the *climate*. We all know, too, how the controversy has been kept up between the partisans of a "science of history" and those who deny the existence of anything like necessary "laws" where human societies are concerned. Mr. Spencer, at the opening of his *Study*
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of Sociology, makes an onslaught on the "great-man theory" of history, from which a few passages may be quoted:

"The genesis of societies by the action of great men may be comfortably believed so long as, resting in general notions, you do not ask for particulars. But now, if, dissatisfied with vagueness, we demand that our ideas shall be brought into focus and exactly defined, we discover the hypothesis to be utterly incoherent. If, not stopping at the explanation of social progress as due to the great man, we go back a step, and ask, Whence comes the great man? we find that the theory breaks down completely. The question has two conceivable answers: his origin is supernatural or it is natural. Is his origin supernatural? Then he is a deputy god, and we have theocracy once removed—or, rather, not removed at all. . . . Is this an unacceptable solution? Then the origin of the great man is natural; and immediately this is recognized, he must be classed with all other phenomena in the society that gave him birth as a product of its antecedents. Along with the whole generation of which he forms a minute part, along with its institutions, language, knowledge, manners, and its multitudinous arts and appliances, he is a resultant. . . . You must admit that the genesis of the great man depends on the long series of complex influences which has produced the race in which he appears, and the social state into which that race has slowly grown. . . . Before he can remake his society, his society must make him. All those changes of which he is the proximate initiator have their chief causes in the generations he descended from. If there is to be anything like a real explanation of those changes, it must be sought in that aggregate of conditions out of which both he and they have arisen." ¹

Now, it seems to me that there is something which one might almost call impudent in the attempt which Mr. Spencer makes, in the first sentence of this extract, to pin

¹ Study of Sociology. pp. 33-35.
the reproach of vagueness upon those who believe in the power of initiative of the great man.

Suppose I say that the singular moderation which now distinguishes social, political, and religious discussion in England, and contrasts so strongly with the bigotry and dogmatism of sixty years ago, is largely due to J. S. Mill’s example. I may possibly be wrong about the facts; but I am, at any rate, “asking for particulars,” and not “resting in general notions.” And if Mr. Spencer should tell me it started from no personal influence whatever, but from the “aggregate of conditions,” the “generations,” Mill and all his contemporaries “descended from,” the whole past order of nature in short, surely he, not I, would be the person “satisfied with vagueness.”

The fact is that Mr. Spencer’s sociological method is identical with that of one who would invoke the zodiac to account for the fall of the sparrow, and the thirteen at table to explain the gentleman’s death. It is of little more scientific value than the Oriental method of replying to whatever question arises by the unimpeachable truism, “God is great.” Not to fall back on the gods, where a proximate principle may be found, has with us Westerners long since become the sign of an efficient as distinguished from an inefficient intellect.

To believe that the cause of everything is to be found in its antecedents is the starting-point, the initial postulate, not the goal and consummation, of science. If she is simply to lead us out of the labyrinth by the same hole we went in by three or four thousand years ago, it seems hardly worth while to have followed her through the darkness at all. If anything is humanly certain it is that the great man’s society, properly so-called, does not make him before he can remake it. Physiological forces, with which the social, political, geographical, and to a great extent anthropological conditions have just as much and just as little to do as the condition of the crater of Vesuvius has to do with the flickering of this gas by which I write, are what make him.
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Can it be that Mr. Spencer holds the convergence of sociological pressures to have so impinged on Stratford-upon-Avon about the 26th of April, 1564, that a W. Shakespeare, with all his mental peculiarities, had to be born there—as the pressure of water outside a certain boat will cause a stream of a certain form to ooze into a particular leak? And does he mean to say that if the aforesaid W. Shakespeare had died of cholera infantum, another mother at Stratford-upon-Avon would needs have engendered a duplicate copy of him, to restore the sociologic equilibrium—just as the same stream of water will reappear, no matter how often you pass a sponge over the leak, so long as the outside level remains unchanged? Or might the substitute arise at "Stratford-atte-Bowe"? Here, as elsewhere, it is very hard, in the midst of Mr. Spencer's vagueness, to tell what he does mean at all.

We have, however, in his disciple, Mr. Grant Allen, one who leaves us in no doubt whatever of his precise meaning. This widely informed, suggestive, and brilliant writer published last year a couple of articles in the Gentleman's Magazine, in which he maintained that individuals have no initiative in determining social change.

"The differences between one nation and another, whether in intellect, commerce, art, morals, or general temperament, ultimately depend, not upon any mysterious properties of race, nationality, or any other unknown and unintelligible abstractions, but simply and solely upon the physical circumstances to which they are exposed. If it be a fact, as we know it to be, that the French nation differs recognizably from the Chinese, and the people of Hamburg differ recognizably from the people of Timbuctoo, then the notorious and conspicuous differences between them are wholly due to the geographical position of the various races. If the people who went to Hamburg had gone to Timbuctoo, they would now be indistinguishable from the semi-barbarian negroes who inhabit that central African metropolis;"
and if the people who went to Timbuctoo had gone to Hamburg, they would now have been white-skinned merchants driving a roaring trade in imitation sherry and indigestible port. . . . The differentiating agency must be sought in the great permanent geographical features of land and sea . . . these have necessarily and inevitably moulded the characters and histories of every nation upon the earth. . . . We cannot regard any nation as an active agent in differentiating itself. Only the surrounding circumstances can have any effect in such a direction. [These two sentences dogmatically deny the existence of the relatively independent physiological cycle of causation.] To suppose otherwise is to suppose that the mind of man is exempt from the universal law of causation. There is no caprice, no spontaneous impulse, in human endeavours. Even tastes and inclinations must themselves be the result of surrounding causes."

Elsewhere Mr. Allen, writing of the Greek culture, says:—

"It was absolutely and unreservedly the product of the geographical Hellas, acting upon the given factor of the undifferentiated Aryan brain. . . . To me it seems a self-evident proposition that nothing whatsoever can differentiate one body of men from another, except the physical conditions in which they are set—including, of course, under the term *physical conditions* the relations of place and time in which they stand with regard to other bodies of men. To suppose otherwise is to deny the primordial law of factor utterly vanishes before the ancestral factor. The difference between Hamburg and Timbuctoo as a cause of ultimate divergence of two races is as nothing to the difference of constitution of the ancestors of the two races, even though as in twin brothers, this difference might be invisible to the naked eye. No two couples of the most homogeneous race could possibly be found so identical as, if set in identical environments, to give rise to two identical lineages. The minute divergence at the start grows broader with each generation, and ends with entirely dissimilar breeds.

causation. To imagine that the mind can differentiate itself is to imagine that it can be differentiated without a cause."  

This outcry about the law of universal causation being undone, the moment we refuse to invest in the kind of causation which is peddled round by a particular school, makes one impatient. These writers have no imagination of alternatives. With them there is no *tertium quid* between outword environment and miracle. *Aut Caesar, aut nullus*: *Aut* Spencerism, *aut* catechism!

If by "physical conditions" Mr. Allen means what he does mean, the outward cycle of visible nature and man, his assertion is simply physiologically false. For a national mind differentiates "itself" whenever a genius is born in its midst by causes acting in the invisible and molecular cycle. But if Mr. Allen means by "physical conditions" the whole of nature, his assertion, though true, forms but the vague Asiatic profession of belief in an all-enveloping fate, which certainly need not plume itself on any specially advanced or scientific character.

And how can a thinker so clever as Mr. Allen fail to have distinguished in these matters between *necessary* conditions and *sufficient* conditions of a given result? The French say that to have an omelet we must break our eggs; that is, the breaking of eggs is a necessary condition of the omelet. But is it a sufficient condition? Does an omelet appear whenever three eggs are broken? So of the Greek mind. To get such versatile intelligence it may be that such commercial dealings with the world as the geographical Hellas afforded are a necessary condition. But if they are a sufficient condition, why did not the Phœnicians outstrip the Greeks in intelligence? No geographical environment can produce a given type of mind. It can only foster and further certain types fortuitously produced, and thwart and frustrate others. Once again, its function is simply selective,

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and determines what shall actually be only by destroying what is positively incompatible. An Arctic environment is incompatible with improvident habits in its denizens; but whether the inhabitants of such a region shall unite with their thrift the peacefulness of the Eskimo or the pugnacity of the Norsemen is, so far as the climate is concerned, an accident. Evolutionists should not forget that we all have five fingers not because four or six would not do just as well, but merely because the first vertebrate above the fishes happened to have that number. He owed his prodigious success in founding a line of descent to some entirely other quality—we know not which—but the inessential five fingers were taken in tow and preserved to the present day. So of most social peculiarities. Which of them shall be taken in tow by the few qualities which the environment necessarily exacts is a matter of what physiological accidents shall happen among individuals. Mr. Allen promises to prove his thesis in detail by the examples of China, India, England, Rome, etc. I have not the smallest hesitation in predicting that he will do no more with these examples than he has done with Hellas. He will appear upon the scene after the fact, and show that the quality developed by each race was, naturally enough, not incompatible with its habitat. But he will utterly fail to show that the particular form of compatibility fallen into in each case was the one necessary and only possible form.

Naturalists know well enough how indeterminate the harmonies between a fauna and its environment are. An animal may better his chances of existence in either of many ways—growing aquatic, arboreal, or subterranean; small and swift, or massive and bulky; spiny, horny, slimy, or venomous; more timid or more pugnacious; more cunning or more fertile of offspring; more gregarious or more solitary; or in other ways besides—and any one of these ways may suit him to many widely different environments.
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Readers of Mr. A. R. Wallace will well remember the striking illustrations of this in his *Malay Archipelago*:

"Borneo closely resembles New Guinea not only in its vast size and its freedom from volcanoes, but in its variety of geological structure, its uniformity of climate, and the general aspect of the forest vegetation that clothes its surface; the Moluccas are the counterpart of the Philippines in their volcanic structure, their extreme fertility, their luxuriant forests, and their frequent earthquakes; and Bali, with the east end of Java, has a climate almost as dry and a soil almost as arid as that of Timor. Yet between these corresponding groups of islands, constructed, as it were, after the same pattern, subjected to the same climate, and bathed by the same oceans, there exists the greatest possible contrast when we compare their animal productions. Nowhere does the ancient doctrine that differences or similarities in the various forms of life that inhabit different countries are due to corresponding physical differences or similarities in the countries themselves, meet with so direct and palpable a contradiction. Borneo and New Guinea, as alike physically as two distinct countries can be, are zoologically wide as the poles asunder; while Australia, with its dry winds, its open plains, its stony deserts, and its temperate climate, yet produces birds and quadrupeds which are closely related to those inhabiting the hot, damp, luxuriant forests which everywhere clothe the plains and mountains of New Guinea."

Here we have similar physical-geography environments harmonising with widely differing animal lives, and similar animal lives harmonizing with widely differing geographical environments. A singularly accomplished writer, E. Gryzanowski, in the *North American Review*,\(^1\) uses the instances of Sardinia and Corsica in support of this thesis with great effect. He says:

"These sister islands, lying in the very centre of the Mediterranean, at almost equal distances from the centres

\(^1\) Vol. cxiii. p. 318 (October 1871)."
of Latin and Neo-Latin civilization, within easy reach of the Phoenician, the Greek, and the Saracen, with a coast-
line of more than a thousand miles, endowed with obvious and tempting advantages, and hiding untold sources of agricultural and mineral wealth, have nevertheless remained unknown, unheeded, and certainly uncared for during the thirty centuries of European history. . . . These islands have dialects, but no language; records of battles, but no history. They have customs, but no laws; the vendetta, but no justice. They have wants and wealth, but no com-
merce; timber and ports, but no shipping. They have legends, but no poetry; beauty, but no art; and twenty years ago it could still be said that they had universities, but no students. . . . That Sardinia, with all her emotional and picturesque barbarism, has never produced a single artist is almost as strange as her barbarism itself. . . . Near the focus of European civilization, in the very spot which an a priori geographer would point out as the most favourable place for material and intellectual, commercial, and political development, these strange sister islands have slept their secular sleep, like nodes on the sounding board of history."

This writer then goes on to compare Sardinia and Sicily with some detail. All the material advantages are in favour of Sardinia, "and the Sardinian population, being of an ancestry more mixed than that of the English race, would justify far higher expectations than that of Sicily." Yet Sicily's past history has been brilliant in the extreme, and her commerce to-day is great. Dr. Gryzanowski has his own theory of the historic torpor of these favoured isles. He thinks they stagnated because they never gained political autonomy, being always owned by some Continental power. I will not dispute the theory; but I will ask, Why did they not gain it? and answer immediately: Simply because no individuals were born there with patriot-
ism and ability enough to inflame their countrymen with national pride, ambition, and thirst for independent life.
Corsicans and Sardinians are probably as good stuff as any of their neighbours. But the best wood-pile will not blaze till a torch is applied, and the appropriate torches seem to have been wanting.\footnote{1}

Sporadic great men come everywhere. But for a community to get vibrating through and through with intensely active life, many geniuses coming together and in rapid

\footnote{1 I am well aware that in much that follows (though in nothing that precedes) I seem to be crossing the heavily shotted bows of Mr. Galton, for whose laborious investigations into the heredity of genius I have the greatest respect. Mr. Galton inclines to think that genius of intellect and passion is bound to express itself, whatever the outward opportunity, and that within any given race an equal number of geniuses of each grade must needs be born in every equal period of time; a subordinate race cannot possibly engender a large number of high-class geniuses, etc. He would, I suspect, infer the suppositions I go on to make—of great men fortuitously assembling around a given epoch and making it great, and of their being fortuitously absent from certain places and times (from Sardinia, from Boston now, etc.)—to be radically vicious. I hardly think, however, that he does justice to the great complexity of the conditions of effective greatness, and to the way in which the physiological averages of production may be masked entirely during long periods, either by the accidental mortality of geniuses in infancy, or by the fact that the particular geniuses born happened not to find tasks. I doubt the truth of his assertion that \textit{intellectual} genius, like murder, "will out." It is true that certain types are irrepressible. Voltaire, Shelley, Carlyle, can hardly be conceived leading a dumb and \textit{vegetative} life in any epoch. But take Mr. Galton himself, take his cousin Mr. Darwin, and take Mr. Spencer: nothing is to me more conceivable than that at another epoch all three of these men might have died "with all their music in them," known only to their friends as persons of strong and original character and judgment. What has started them on their career of effective greatness is simply the accident of each stumbling upon a task vast, brilliant, and congenial enough to call out the convergence of all his passions and powers. I see no more reason why, in case they had not fallen in with their several hobbies at propitious periods in their life, they need necessarily have hit upon other hobbies, and made themselves equally great. Their case seems similar to that of the Washingtons, Cromwells, and Grants, who simply rose to their occasions. But apart from these causes of fallacy, I am strongly disposed to think that where transcendent geniuses are concerned the numbers anyhow are so small that their appearance will not fit into any scheme of averages. That is, two or three might appear together, just as the two or three balls nearest the target centre might be fired consecutively. Take longer epochs and more firing, and the great geniuses and near balls would on the whole be more spread out.}
succession are required. This is why great epochs are so rare—why the sudden bloom of a Greece, an early Rome, a Renaissance, is such a mystery. Blow must follow blow so fast that no cooling can occur in the intervals. Then the mass of the nation grows incandescent, and may continue to glow by pure inertia long after the originators of its internal movement have passed away. We often hear surprise expressed that in these high tides of human affairs not only the people should be filled with stronger life, but that individual geniuses should seem so exceptionally abundant. This mystery is just about as deep as the time-honoured conundrum as to why great rivers flow by great towns. It is true that great public fermentations awaken and adopt many geniuses, who in more torpid times would have had no chance to work. But over and above this there must be an exceptional concourse of genius about a time, to make the fermentation begin at all. The unlikelihood of the concourse is far greater than the unlikelihood of any particular genius; hence the rarity of these periods and the exceptional aspect which they always wear.

It is folly, then, to speak of the "laws of history" as of something inevitable, which science has only to discover and whose consequences any one can then foretell but do nothing to alter or avert. Why, the very laws of physics are conditional, and deal with ifs. The physicist does not say, "The water will boil anyhow;" he only says it will boil if a fire be kindled beneath it. And so the utmost the student of sociology can ever predict is that if a genius of a certain sort show the way, society will be sure to follow. It might long ago have been predicted with great confidence that both Italy and Germany would reach a stable unity if some one could but succeed in starting the process. It could not have been predicted, however, that the modus operandi in each case would be subordination to a paramount state rather than federation, because no historian could have calculated the freaks of birth and fortune which gave at the same moment such positions of authority to three such
peculiar individuals as Napoleon III., Bismarck, and Cavour. So of our own politics. It is certain now that the movement of the independents, reformers, or whatever one please to call them, will triumph. But whether it do so by converting the Republican party to its ends, or by rearing a new party on the ruins of both our present factions, the historian cannot say. There can be no doubt that the reform movement would make more progress in one year with an adequate personal leader than as now in ten without one. Were there a great citizen, splendid with every civic gift, to be its candidate, who can doubt that he would lead us to victory? But, at present, we, his environment, who sigh for him and would so gladly preserve and adopt him if he came, can neither move without him, nor yet do anything to bring him forth.¹

To conclude: The evolutionary view of history, when it denies the vital importance of individual initiative, is, then, an utterly vague and unscientific conception, a lapse from modern scientific determinism into the most ancient oriental fatalism. The lesson of the analysis that we have made (even on the completely deterministic hypothesis with which we started) forms an appeal of the most stimulating sort to the energy of the individual. Even the dogged resistance of the reactionary conservative to changes which he cannot hope entirely to defeat is justified and shown to be effective. He retards the movement; deflects it a little by the concessions he extracts; gives it a resultant momentum, compounded of his inertia and his adversaries' speed; and keeps up, in short, a constant lateral pressure, which, to be sure, never heads it round about, but brings it up at last at a goal far to the right or left of that to which it would have drifted had he allowed it to drift alone.

I now pass to the last division of my subject, the function

¹ Since this paper was written, President Cleveland has to a certain extent met the need. But who can doubt that if he had certain other qualities which he has not yet shown, his influence would have been still more decisive? (1896).
of the environment in mental evolution. After what I have already said, I may be quite concise. Here, if anywhere, it would seem at first sight as if that school must be right which makes the mind passively plastic, and the environment actively productive of the form and order of its conceptions; which, in a word, thinks that all mental progress must result from a series of adaptive changes, in the sense already defined of that word. We know what a vast part of our mental furniture consists of purely remembered, not reasoned, experience. The entire field of our habits and associations by contiguity belongs here. The entire field of those abstract conceptions which were taught us with the language into which we were born belongs here also. And, more than this, there is reason to think that the order of "outer relations" experienced by the individual may itself determine the order in which the general characters imbedded therein shall be noticed and extracted by his mind.¹ The pleasures and benefits, moreover, which certain parts of the environment yield, and the pains and hurts which other parts inflict, determine the direction of our interest and our attention, and so decide at which points the accumulation of mental experiences shall begin. It might, accordingly, seem as if there were no room for any other agency than this; as if the distinction we have found so useful between "spontaneous variation," as the producer of changed forms, and the environment, as their preserver and destroyer, did not hold in the case of mental progress; as if, in a word, the parallel with darwinism might no longer obtain, and Spencer might be quite right with his fundamental law of intelligence, which says, "The cohesion between psychical states is proportionate to the frequency with which the relation between the answering external phenomena has been repeated in experience."²

¹ That is, if a certain general character be rapidly repeated in our outer experience with a number of strongly contrasted concomitants, it will be sooner abstracted than if its associates are invariable or monotonous.

² Principles of Psychology, i. 460. See also pp. 463, 464, 500. On
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But, in spite of all these facts, I have no hesitation whatever in holding firm to the darwinian distinction even here. I maintain that the facts in question are all drawn from the lower strata of the mind, so to speak—from the sphere of its least evolved functions, from the region of intelligence which man possesses in common with the brutes. And I can easily show that throughout the whole extent of those mental departments which are highest, which are most characteristically human, Spencer’s law is violated at every step; and that as a matter of fact the new conceptions, emotions, and active tendencies which evolve are originally produced in the shape of random images, fancies, accidental out-births of spontaneous variation in the functional activity of the excessively unstable human brain, which the outer environment simply confirms or refutes, adopts or rejects, preserves or destroys—selects, in short, just as it selects morphological and social variations due to molecular accidents of an analogous sort.

It is one of the tritest of truisms that human intelligences of a simple order are very literal. They are slaves of habit, doing what they have been taught without variation; dry, prosaic, and matter-of-fact in their remarks; devoid of humour, except of the coarse physical kind which rejoices in a practical joke; taking the world for granted; and possessing in their faithfulness and honesty the single gift by which they are sometimes able to warm us into admiration. But even this faithfulness seems to have a sort of inorganic ring, and to remind us more of the immutable properties of a piece of inanimate matter than of the steadfastness of a human will capable of alternative choice. When we descend to the brutes, all these peculiarities are intensified. No reader of Schopenhauer can forget his frequent allusions to the trockener ernst of dogs and horses, nor to their ehrlichkeit.

page 408 the law is formulated thus: The persistence of the connection in consciousness is proportionate to the persistence of the outer connection. Mr. Spencer works most with the law of frequency. Either law, from my point of view, is false; but Mr. Spencer ought not to think them synonymous.
And every noticer of their ways must receive a deep impression of the fatally literal character of the few, simple, and treadmill-like operations of their minds.

But turn to the highest order of minds, and what a change! Instead of thoughts of concrete things patiently following one another in a beaten track of habitual suggestion, we have the most abrupt cross-cuts and transitions from one idea to another, the most rarefied abstractions and discriminations, the most unheard-of combinations of elements, the subtlest associations of analogy; in a word, we seem suddenly introduced into a seething caldron of ideas, where everything is fizzling and bobbing about in a state of bewildering activity, where partnerships can be joined or loosened in an instant, treadmill routine is unknown, and the unexpected seems the only law. According to the idiosyncrasy of the individual, the scintillations will have one character or another. They will be sallies of wit and humour; they will be flashes of poetry and eloquence; they will be constructions of dramatic fiction or of mechanical device, logical or philosophic abstractions, business projects, or scientific hypotheses, with trains of experimental consequences based thereon; they will be musical sounds, or images of plastic beauty or picturesqueness, or visions of moral harmony. But, whatever their differences may be, they will all agree in this—that their genesis is sudden and, as it were, spontaneous. That is to say, the same premises would not, in the mind of another individual, have engendered just that conclusion; although, when the conclusion is offered to the other individual, he may thoroughly accept and enjoy it, and envy the brilliancy of him to whom it first occurred.

To Professor Jevons is due the great credit of having emphatically pointed out how the genius of discovery depends altogether on the number of these random notions and guesses which visit the investigator's mind. To be fertile in hypotheses is the first requisite, and to be willing

¹ In his *Principles of Science*, chaps. xi, xii, xxvi.
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to throw them away the moment experience contradicts them is the next. The Baconian method of collating tables of instances may be a useful aid at certain times. But one might as well expect a chemist’s note-book to write down the name of the body analyzed, or a weather table to sum itself up into a prediction of probabilities of its own accord, as to hope that the mere fact of mental confrontation with a certain series of facts will be sufficient to make any brain conceive their law. The conceiving of the law is a spontaneous variation in the strictest sense of the term. It flashes out of one brain, and no other, because the instability of that brain is such as to tip and upset itself in just that particular direction. But the important thing to notice is that the good flashes and the bad flashes, the triumphant hypotheses and the absurd conceits, are on an exact equality in respect of their origin. Aristotle’s absurd Physics and his immortal Logic flow from one source: the forces that produce the one produce the other. When walking along the street, thinking of the blue sky or the fine spring weather, I may either smile at some grotesque whim which occurs to me, or I may suddenly catch an intuition of the solution of a long-unsolved problem, which at that moment was far from my thoughts. Both notions are shaken out of the same reservoir—the reservoir of a brain in which the reproduction of images in the relations of their outward persistence or frequency has long ceased to be the dominant law. But to the thought, when it is once engendered, the consecration of agreement with outward relations may come. The conceit perishes in a moment, and is forgotten. The scientific hypothesis arouses in me a fever of desire for verification. I read, write, experiment, consult experts. Everything corroborates my notion, which being then published in a book spreads from review to review and from mouth to mouth, till at last there is no doubt I am enshrined in the Pantheon of the great diviners of nature’s ways. The environment preserves the
conception which it was unable to produce in any brain less idiosyncratic than my own.

Now, the spontaneous upsets of brains this way and that at particular moments into particular ideas and combinations are matched by their equally spontaneous permanent tiltings or saggings towards determinate directions. The humorous bent is quite characteristic; the sentimental one equally so. And the personal tone of each mind, which makes it more alive to certain classes of experience than others, more attentive to certain impressions, more open to certain reasons, is equally the result of that invisible and unimaginable play of the forces of growth within the nervous system which, irresponsibly to the environment, makes the brain peculiarly apt to function in a certain way. Here again the selection goes on. The products of the mind with the determined aesthetic bent please or displease the community. We adopt Wordsworth, and grow unsentimental and serene. We are fascinated by Schopenhauer, and learn from him the true luxury of woe. The adopted bent becomes a ferment in the community, and alters its tone. The alteration may be a benefit or a misfortune, for it is (pace Mr. Allen) a differentiation from within, which has to run the gauntlet of the larger environment’s selective power. Civilized Languedoc, taking the tone of its scholars, poets, princes, and theologians, fell a prey to its rude Catholic environment in the Albigensian crusade. France in 1792, taking the tone of its St. Justs and Marats, plunged into its long career of unstable outward relations. Prussia in 1806, taking the tone of its Humboldts and its Steins, proved itself in the most signal way “adjusted” to its environment in 1872.

Mr. Spencer, in one of the strangest chapters of his Psychology,\(^1\) tries to show the necessary order in which the development of conceptions in the human race occurs. No abstract conception can be developed, according to him,

\(^1\) Part viii. chap. iii.
until the outward experiences have reached a certain degree of heterogeneity, definiteness, coherence, and so forth.

"Thus the belief in an unchanging order, the belief in law, is a belief of which the primitive man is absolutely incapable. . . . Experiences such as he receives furnish but few data for the conception of uniformity, whether as displayed in things or in relations. . . . The daily impressions which the savage gets yield the notion very imperfectly, and in but few cases. Of all the objects around—trees, stones, hills, pieces of water, clouds, and so forth—most differ widely . . . and few approach complete likeness so nearly as to make discrimination difficult. Even between animals of the same species it rarely happens that, whether alive or dead, they are presented in just the same attitudes. . . . It is only along with a gradual development of the arts . . . that there come frequent experiences of perfectly straight lines admitting of complete apposition, bringing the perceptions of equality and inequality. Still more devoid is savage life of the experiences which generate the conception of the uniformity of succession. The sequences observed from hour to hour and day to day seem anything but uniform; difference is a far more conspicuous trait among them. . . . So that if we contemplate primitive human life as a whole, we see that multiplicity of sequence, rather than uniformity, is the notion which it tends to generate. . . . Only as fast as the practice of the arts develops the idea of measure can the consciousness of uniformity become clear. . . . Those conditions furnished by advancing civilization which make possible the notion of uniformity simultaneously make possible the notion of exactness. . . . Hence the primitive man has little experience which cultivates the consciousness of what we call truth. How closely allied this is to the consciousness which the practice of the arts cultivates is implied even in language. We speak of a true surface as well as a true statement. Exactness describes perfection in
a mechanical fit, as well as perfect agreement between the
results of calculations."

The whole burden of Mr. Spencer's book is to show the
fatal way in which the mind, supposed passive, is moulded
by its experiences of "outer relations." In this chapter
the yard-stick, the balance, the chronometer, and other
machines and instruments come to figure among the "re-
lations" external to the mind. Surely they are so, after
they have been manufactured; but only because of the
preservative power of the social environment. Originally
all these things and all other institutions were flashes of
genius in an individual head, of which the outer environ-
ment showed no sign. Adopted by the race and become its
heritage, they then supply instigations to new geniuses
whom they environ to make new inventions and discoveries;
and so the ball of progress rolls. But take out the geniuses,
or alter their idiosyncrasies, and what increasing uniformi-
ties will the environment show? We defy Mr. Spencer or
any one else to reply.

The plain truth is that the "philosophy" of evolution
(as distinguished from our special information about par-
ticular cases of change) is a metaphysical creed, and nothing
else. It is a mood of contemplation, an emotional attitude,
rather than a system of thought—a mood which is old as
the world, and which no refutation of any one incarnation
of it (such as the spencerian philosophy) will dispel; the
mood of fatalistic pantheism, with its intuition of the One
and All, which was, and is, and ever shall be, and from whose
womb each single thing proceeds. Far be it from us to speak
slightly here of so hoary and mighty a style of looking
on the world as this. What we at present call scientific
discoveries had nothing to do with bringing it to birth, nor
can one easily conceive that they should ever give it its
quietus, no matter how logically incompatible with its
spirit the ultimate phenomenal distinctions which science
accumulates should turn out to be. It can laugh at the
phenomenal distinctions on which science is based, for it
Great Men and their Environment
draws its vital breath from a region which—whether above or below—is at least altogether different from that in which science dwells. A critic, however, who cannot disprove the truth of the metaphysic creed, can at least raise his voice in protest against its disguising itself in "scientific" plumes. I think that all who have had the patience to follow me thus far will agree that the spencerian "philosophy" of social and intellectual progress is an obsolete anachronism, reverting to a pre-darwinian type of thought, just as the spencerian philosophy of "Force," effacing all the previous distinctions between actual and potential energy, momentum, work, force, mass, etc., which physicists have with so much agony achieved, carries us back to a pre-galilean age.