First and Last Things

By

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INTRODUCTION.

Recently I set myself to put down what I believe. I did this with no idea of making a book, but at the suggestion of a friend and to interest a number of friends with whom I was associated. We were all, we found, extremely uncertain in our outlook upon life, about our religious feelings and in our ideas of right and wrong. And yet we reckoned ourselves people of the educated class and some of us talk and lecture and write with considerable confidence. We thought it would be of very great interest to ourselves and each other if we made some sort of frank mutual confession. We arranged to hold a series of meetings in which first one and then another explained the faith, so far as he understood it, that was in him. We astonished ourselves and our hearers by the irregular and fragmentary nature of the creeds we produced, clotted at one point, inconsecutive at another, inconsistent and unconvincing to a quite unexpected degree. It would not be difficult to caricature one of those meetings; the lecturer floundering about with an air of exquisite illumination, the audience attentive with an expression of thwarted edification upon its various brows. For my own part I grew so interested in planning my lecture and in joining up point and point, that my notes soon outran the possibilities of the hour or so of meeting for which I was preparing them. The meeting got only a few fragments of what I had to say, and made what it could of them. And after that was over I let myself loose from limits of time and length altogether and have expanded these memoranda into a book.

It is as it stands now the frank confession of what one man of the early Twentieth Century has found in life and himself, a confession just as frank as the limitations of his character permit; it is his metaphysics, his religion, his moral standards, his uncertainties and the expedients with which he has met them. On every one of these departments and aspects I write--how shall I put it?--as an amateur. In every section of my subject there are men not only of far greater intellectual power and energy than I, but who have devoted their whole lives to the sustained analysis of this or that among the questions I discuss, and there is a literature so enormous in the aggregate that only a specialist scholar could hope to know it. I have not been unmindful of these professors and this literature; I have taken such opportunities as I have found, to test my propositions by them. But I feel that such apology as one makes for amateurishness in this field has a lesser quality of self-condemnation than if one were dealing with narrower, more defined and fact-laden matters. There is more excuse for one here than for the amateur maker of chemical theories, or the man who evolves a system of surgery in his leisure. These things, chemistry, surgery and so forth, we may take on the reputation of an expert, but our own fundamental beliefs, our rules of conduct, we must all make for ourselves. We may listen and read, but the views of others we cannot take on credit; we must rethink them and "make them our own." And we cannot do without fundamental beliefs, explicit or implicit. The bulk of men are obliged to be amateur philosophers,--all men indeed who are not specialized students of philosophical subjects,--even if their philosophical enterprise goes no further than prompt recognition of and submission to

Authority.

And it is not only the claim of the specialist that I would repudiate. People are too apt to suppose that in order to discuss morals a man must have exceptional moral gifts. I would dispute that naive supposition. I am an ingenuous enquirer with, I think, some capacity for religious feeling, but neither a prophet nor a saint. On the whole I should be inclined to classify myself as a bad man rather than a good; not indeed as any sort of picturesque scoundrel or non-moral expert, but as a person frequently irritable, ungenerous and forgetful, and intermittently and in small but definite ways bad. One thing I claim, I have got my beliefs and theories out of my life and not fitted them to its circumstances. As often as not I have learnt good by the method of difference; by the taste of the alternative. I tell this faith I hold as I hold it and I sketch out the principles by which I am generally trying to direct my life at the present time, because it interests me to do so and I think it may interest a certain number of similarly constituted people. I am not teaching. How far I succeed or fail in that private and personal attempt to behave well, has nothing to do with the matter of this book. That is another story, a reserved and private affair. I offer simply intellectual experiences and ideas.

It will be necessary to take up the most abstract of these questions of belief first, the metaphysical questions. It may be that to many readers the opening sections may seem the driest and least attractive. But I would ask them to begin at the beginning and read straight on, because

much that follows this metaphysical book cannot be appreciated at its proper value without a grasp of these preliminaries.

BOOK THE FIRST. -- METAPHYSICS.

1.1. THE NECESSITY FOR METAPHYSICS.

As a preliminary to that experiment in mutual confession from which this book arose, I found it necessary to consider and state certain truths about the nature of knowledge, about the meaning of truth and the value of words, that is to say I found I had to begin by being metaphysical. In writing out these notes now I think it is well that I should state just how important I think this metaphysical prelude is.

There is a popular prejudice against metaphysics as something at once difficult and fruitless, as an idle system of enquiries remote from any human interest. I suppose this odd misconception arose from the vulgar pretensions of the learned, from their appeal to ancient names and their quotations in unfamiliar tongues, and from the easy fall into technicality of men struggling to be explicit where a high degree of explicitness is impossible. But it needs erudition and accumulated and alien literature to make metaphysics obscure, and some of the most fruitful and able metaphysical discussion in the world was conducted by a number of unhampered men in small Greek cities, who knew no language but their own and had scarcely a technical term. The true metaphysician is after all only a person who says, "Now let us take a thought for a

moment before we fall into a discussion of the broad questions of life, lest we rush hastily into impossible and needless conflict. What is the exact value of these thoughts we are thinking and these words we are using?" He wants to take thought about thought. Those other ardent spirits on the contrary, want to plunge into action or controversy or belief without taking thought; they feel that there is not time to examine thought. "While you think," they say, "the house is burning." They are the kin of those who rush and struggle and make panics in theatre fires.

Now it seems to me that most of the troubles of humanity are really misunderstandings. Men's compositions and characters are, I think, more similar than their views, and if they had not needlessly different modes of expression upon many broad issues, they would be practically at one upon a hundred matters where now they widely differ.

Most of the great controversies of the world, most of the wide religious differences that keep men apart, arise from this: from differences in their way of thinking. Men imagine they stand on the same ground and mean the same thing by the same words, whereas they stand on slightly different grounds, use different terms for the same thing and express the same thing in different words. Logomachies, conflicts about words,--into such death-traps of effort those ardent spirits run and perish.

This is now almost a commonplace; it has been said before by numberless

people. It has been said before by numberless people, but it seems to me it has been realised by very few--and until it is realised to the fullest extent, we shall continue to live at intellectual cross purposes and waste the forces of our species needlessly and abundantly.

This persuasion is a very important thing in my mind.

I think that the time has come when the human mind must take up metaphysical discussion again--when it must resume those subtle but necessary and unavoidable problems that it dropped unsolved at the close of the period of Greek freedom, when it must get to a common and general understanding upon what its ideas of truth, good, and beauty amount to, and upon the relation of the name to the thing, and of the relation of one mind to another mind in the matter of resemblance and the matter of difference--upon all those issues the young science student is as apt to dismiss as Rot, and the young classical student as Gas, and the austere student of the science of Economics as Theorising, unsuitable for his methods of research.

In our achievement of understandings in the place of these evasions about fundamental things lies the road, I believe, along which the human mind can escape, if ever it is to escape, from the confusion of purposes that distracts it at the present time.

1.2. THE RESUMPTION OF METAPHYSICAL ENQUIRY.

It seems to me that the Greek mind up to the disaster of the Macedonian Conquest was elaborately and discursively discussing these questions of the forms and methods of thought and that the discussion was abruptly closed and not naturally concluded, summed up hastily as it were, in the career and lecturings of Aristotle.

Since then the world never effectually reopened these questions until the modern period. It went on from Plato and Aristotle just as the art of the seventeenth and eighteenth century went on from Raphael and Michael Angelo. Effectual criticism was absolutely silent until the Renaissance, and then for a time was but a matter of scattered utterances having only the slightest collective effect. In the past half century there has begun a more systematic critical movement in the general mind, a movement analogous to the Pre-Raphaelite movement in art--a Pre-Aristotelian movement, a scepticism about things supposed to be settled for all time, a resumed inquiry into the fundamental laws of thought, a harking back to positions of the older philosophers and particularly to Heraclitus, so far as the surviving fragments of his teaching enable one to understand him, and a new forward movement from that recovered ground.

1.3. THE WORLD OF FACT.

Necessarily when one begins an inquiry into the fundamental nature of oneself and one's mind and its processes, one is forced into autobiography. I begin by asking how the conscious mind with which I am prone to identify myself, began.

It presents itself to me as a history of a perception of the world of facts opening out from an accidental centre at which I happened to begin.

I do not attempt to define this word fact. Fact expresses for me something in its nature primary and unanalyzable. I start from that. I take as a typical statement of fact that I sit here at my desk writing with a fountain pen on a pad of ruled scribbling paper, that the sunlight falls upon me and throws the shadow of my window mullion across the page, that Peter, my cat, sleeps on the window-seat close at hand and that this agate paper-weight with the silver top that once was Henley's holds my loose memoranda together. Outside is a patch of lawn and then a fringe of winter-bitten iris leaves and then the sea, greatly wrinkled and astir under the south-west wind. There is a boat going out which I think may be Jim Pain's, but of that I cannot be sure...

These are statements of a certain quality, a quality that extends through a huge universe in which I find myself placed.

I try to recall how this world of fact arose in my mind. It began with a succession of limited immediate scenes and of certain minutely perceived persons; I recall an underground kitchen with a drawered table, a window looking up at a grating, a back yard in which, growing out by a dustbin, was a grape-vine; a red-papered room with a bookcase over my father's shop, the dusty aisles and fixtures, the regiments of wine-glasses and tumblers, the rows of hanging mugs and jugs, the towering edifices of jam-pots, the tea and dinner and toilet sets in that emporium, its brighter side of cricket goods, of pads and balls and stumps. Out of the window one peeped at the more exterior world, the High Street in front, the tailor's garden, the butcher's yard, the churchyard and Bromley church tower behind; and one was taken upon expeditions to fields and open places. This limited world was peopled with certain familiar presences, mother and father, two brothers, the evasive but interesting cat, and by intermittent people of a livelier but more transient interest, customers and callers.

Such was my opening world of fact, and each day it enlarged and widened and had more things added to it. I had soon won my way to speech and was hearing of facts beyond my visible world of fact. Presently I was at a Dame's school and learning to read.

From the centre of that little world as primary, as the initiatory

material, my perception of the world of fact widened and widened, by new sights and sounds, by reading and hearing descriptions and histories, by guesses and inferences; my curiosity and interest, my appetite for fact, grew by what it fed upon, I carried on my expansion of the world of fact until it took me through the mineral and fossil galleries of the Natural History Museum, through the geological drawers of the College of Science, through a year of dissection and some weeks at the astronomical telescope. So I built up my conceptions of a real world out of facts observed and out of inferences of a nature akin to fact, of a world immense and enduring, receding interminably into space and time. In that I found myself placed, a creature relatively infinitesimal, needing and struggling. It was clear to me, by a hundred considerations, that I in my body upon this planet Earth, was the outcome of countless generations of conflict and begetting, the creature of natural selection, the heir of good and bad engendered in that struggle.

So my world of fact shaped itself. I find it altogether impossible to question or doubt that world of fact. Particular facts one may question as facts. For instance, I think I see an unseasonable yellow wallflower from my windows, but you may dispute that and show that it is only a broken end of iris leaf accidentally lit to yellow. That is merely a substitution of fact for fact. One may doubt whether one is perceiving or remembering or telling facts clearly, but the persuasion that there are facts, independent of one's interpretations and obdurate to one's will, remains invincible.

1.4. SCEPTICISM OF THE INSTRUMENT.

At first I took the world of fact as being exactly as I perceived it. I believed my eyes. Seeing was believing, I thought. Still more did I believe my reasoning. It was only slowly that I began to suspect that the world of fact could be anything different from the clear picture it made upon my mind.

I realised the inadequacy of the senses first. Into that I will not enter here. Any proper text book of physiology or psychology will supply a number of instances of the habitual deceptions of sight and touch and hearing. I came upon these things in my reading, in the laboratory, with microscope or telescope, lived with them as constant difficulties. I will only instance one trifling case of visual deception in order to lead to my next question. One draws two lines strictly parallel; so

(two horizontal and parallel lines.)

Oblique to them one draws a series of lines; so

(a series of parallel and closely-spaced lines drawn through each horizontal line, one series (top) sloping to the right, the other

(bottom) to the left)

and instantly the parallelism seems to be disturbed. If the second figure is presented to any one without sufficient science to understand this delusion, the impression is created that these lines converge to the right and diverge to the left. The vision is deceived in its mental factor and judges wrongly of the thing seen.

In this case we are able to measure the distance of the lines, to find how the main lines looked before the cross ones were drawn, to bring the deception up against fact of a different sort and so correct the mistake. If the ignorant observer were unable to do that, he might remain permanently under the impression that the main lines were out of parallelism. And all the infirmities of eye and ear, touch and taste, are discovered and checked by the fact that the erroneous impressions presently strike against fact and discover an incompatibility with it. If they did not we should never have discovered them. If on the other hand they are so incompatible with fact as to endanger the lives of the beings labouring under such infirmities, they would tend to be eliminated from among our defects.

The presumption to which biological science brings one is that the senses and mind will work as well as the survival of the species may require, but that they will not work so very much better. There is no ground in matter-of-fact experience for assuming that there is any more inevitable certitude about purely intellectual operations than there

is about sensory perceptions. The mind of a man may be primarily only a food-seeking, danger-avoiding, mate-finding instrument, just as the mind of a dog is, just as the nose of a dog is, or the snout of a pig.

You see the strong preparatory reason there is in this view of life for entertaining the suppositions that:--

The senses seem surer than they are.

The thinking mind seems clearer than it is and is more positive than it ought to be.

The world of fact is not what it appears to be.

1.5. THE CLASSIFICATORY ASSUMPTION.

After I had studied science and particularly biological science for some years, I became a teacher in a school for boys. I found it necessary to supplement my untutored conception of teaching method by a more systematic knowledge of its principles and methods, and I took the courses for the diplomas of Licentiate and Fellow of the London College of Preceptors which happened to be convenient for me. These courses included some of the more elementary aspects of psychology and logic and set me thinking and reading further. From the first, Logic as it was presented to me impressed me as a system of ideas and methods remote and secluded from the world of fact in which I lived and with which I had to deal. As it came to me in the ordinary textbooks, it presented itself as the science of inference using the syllogism as its principal instrument. Now I was first struck by the fact that while my teachers in Logic seemed to be assuring me I always thought in this form:--

"M is P,
S is M,
S is P,"

the method of my reasoning was almost always in this form:--

"S1 is more or less P,
S2 is very similar to S1,
S2 is very probably but not certainly more or less P.

Let us go on that assumption and see how it works."

That is to say, I was constantly reasoning by analogy and applying verification. So far from using the syllogistic form confidently, I habitually distrusted it as anything more than a test of consistency in statement. But I found the textbooks of logic disposed to ignore my customary method of reasoning altogether or to recognise it only where S1 and S2 could be lumped together under a common name. Then they put it something after this form as Induction:--

"S1, S2, S3, and S4 are P
S1 + S2 + S3 + S4 +... are all S
All S is P."

I looked into the laws of thought and into the postulates upon which the syllogistic logic is based, and it slowly became clear to me that from my point of view, the point of view of one who seeks truth and reality, logic assumed a belief in the objective reality of classification of which my studies in biology and mineralogy had largely disabused me. Logic, it seemed to me, had taken a common innate error of the mind and had emphasised it in order to develop a system of reasoning that should be exact in its processes. I turned my attention to the examination of that. For in common with the general run of men I had supposed that logic professed to supply a trustworthy science and method for the investigation and expression of reality.

A mind nourished on anatomical study is of course permeated with the suggestion of the vagueness and instability of biological species. A biological species is quite obviously a great number of unique individuals which is separable from other biological species only by the fact that an enormous number of other linking individuals are inaccessible in time--are in other words dead and gone--and each new individual in that species does, in the distinction of its own individuality, break away in however infinitesimal degree from the previous average properties of the species. There is no property of any species, even the properties that constitute the specific definition, that is not a matter of more or less.

If, for example, as species be distinguished by a single large red spot on the back, you will find if you go over a great number of specimens that red spot shrinking here to nothing, expanding there to a more general redness, weakening to pink, deepening to russet and brown, shading into crimson, and so on and so on. And this is true not only of biological species. It is true of the mineral specimens constituting a mineral species, and I remember as a constant refrain in the lectures of Professor Judd upon rock classification, the words, "they pass into one another by insensible gradations." It is true, I hold, of all things.

You will think perhaps of atoms of the elements as instances of identically similar things, but these are things not of experience but of theory, and there is not a phenomenon in chemistry that is not equally well explained on the supposition that it is merely the immense

quantities of atoms necessarily taken in any experiment that masks by the operation of the law of averages the fact that each atom also has its unique quality, its special individual difference.

This ideal of uniqueness in all individuals is not only true of the classifications of material science; it is true and still more evidently true of the species of common thought; it is true of common terms. Take the word "Chair." When one says chair, one thinks vaguely of an average chair. But collect individual instances; think of armchairs and reading-chairs and dining-room chairs, and kitchen chairs, chairs that pass into benches, chairs that cross the boundary and become settees, dentist's chairs, thrones, opera stalls, seats of all sorts, those miraculous fungoid growths that cumber the floor of the Arts and Crafts exhibition, and you will perceive what a lax bundle in fact is this simple straightforward term. In co-operation with an intelligent joiner I would undertake to defeat any definition of chair or chairishness that you gave me. Chairs just as much as individual organisms, just as much as mineral and rock specimens, are unique things--if you know them well enough you will find an individual difference even in a set of machine-made chairs--and it is only because we do not possess minds of unlimited capacity, because our brain has only a limited number of pigeon-holes for our correspondence with an unlimited universe of objective uniques, that we have to delude ourselves into the belief that there is a chairishness in this species common to and distinctive of all chairs.

Classification and number, which in truth ignore the fine differences of objective realities, have in the past of human thought been imposed upon things...

Greek thought impresses me as being over much obsessed by an objective treatment of certain necessary preliminary conditions of human thought--number and definition and class and abstract form! But these things,--number, definition, class and abstract form,--I hold, are merely unavoidable conditions of mental activity--regrettable conditions rather than essential facts. THE FORCEPS OF OUR MINDS ARE CLUMSY FORCEPS AND CRUSH THE TRUTH A LITTLE IN TAKING HOLD OF IT...

Let me give you a rough figure of what I am trying to convey in this first attack upon the philosophical validity of general terms. You have seen the result of those various methods of black and white reproduction that involve the use of a rectangular net. You know the sort of process picture I mean--it used to be employed very frequently in reproducing photographs. At a little distance you really seem to have a faithful reproduction of the original picture, but when you peer closely you find not the unique form and masses of the original, but a multitude of little rectangles, uniform in shape and size. The more earnestly you go into the thing, the closelier you look, the more the picture is lost in reticulations. I submit, the world of reasoned inquiry has a very similar relation to the world of fact. For the rough purposes of every day the network picture will do, but the finer your purpose the less it will serve, and for an ideally fine purpose, for absolute and general

knowledge that will be as true for a man at a distance with a telescope as for a man with a microscope, it will not serve at all.

It is true you can make your net of logical interpretation finer and finer, you can fine your classification more and more--up to a certain limit. But essentially you are working in limits, and as you come closer, as you look at finer and subtler things, as you leave the practical purpose for which the method exists, the element of error increases. Every species is vague, every term goes cloudy at its edges; and so in my way of thinking, relentless logic is only another name for a stupidity--for a sort of intellectual pigheadedness. If you push a philosophical or metaphysical inquiry through a series of valid syllogisms--never committing any generally recognised fallacy--you nevertheless leave behind you at each step a certain rubbing and marginal loss of objective truth, and you get deflections that are difficult to trace at each phase in the process. Every species waggles about in its definition, every tool is a little loose in its handle, every scale has its individual error. So long as you are reasoning for practical purposes about finite things of experience you can every now and then check your process and correct your adjustments. But not when you make what are called philosophical and theological inquiries, when you turn your implement towards the final absolute truth of things.

This real vagueness of class terms is equally true whether we consider those terms used extensively or intensively, that is to say whether in relation to all the members of the species or in relation to an

imaginary typical specimen. The logician begins by declaring that S is either P or not P. In the world of fact it is the rarest thing to encounter this absolute alternative; S1 is pink, but S2 is pinker, S3 is scarcely pink at all, and one is in doubt whether S4 is not properly to be called scarlet. The finest type specimen you can find simply has the characteristic quality a little more rather than a little less. The neat little circles the logician uses to convey his idea of P or not P to the student are just pictures of boundaries in his mind, exaggerations of a natural mental tendency. They are required for the purposes of his science, but they are departures from the nature of fact.

1.6. EMPTY TERMS.

Classes in logic are not only represented by circles with a hard firm outline, whereas in fact they have no such definite limits, but also there is a constant disposition to think of all names as if they represented positive classes. With words just as with numbers and abstract forms there have been definite phases of human development. There was with regard to number, the phase when man could barely count at all, or counted in perfect good faith and sanity upon his fingers. Then there was the phase when he struggled with the development of number, when he began to elaborate all sorts of ideas about numbers, until at last he developed complex superstitions about perfect numbers and imperfect numbers, about threes and sevens and the like. The same was the case with abstract forms; and even to-day we are scarcely more than heads out of the vast subtle muddle of thinking about spheres and ideally perfect forms and so on, that was the price of this little necessary step to clear thinking. How large a part numerical and geometrical magic, numerical and geometrical philosophy have played in the history of the mind! And the whole apparatus of language and mental communication is beset with like dangers. The language of the savage is I suppose purely positive; the thing has a name, the name has a thing. This indeed is the tradition of language, and even to-day, we, when we hear a name are predisposed--and sometimes it is a very vicious disposition--to imagine forthwith something answering to the name. WE ARE DISPOSED, AS AN INCURABLE MENTAL VICE, TO ACCUMULATE INTENSION IN

TERMS. If I say to you Wodget or Crump, you find yourself passing over the fact that these are nothings, these are, so to speak mere blankety blanks, and trying to think what sort of thing a Wodget or a Crump may be. You find yourself led insensibly by subtle associations of sound and ideas to giving these blank terms attributes.

Now this is true not only of quite empty terms but of terms that carry a meaning. It is a mental necessity that we should make classes and use general terms, and as soon as we do that we fall into immediate danger of unjustifiably increasing the intension of these terms. You will find a large proportion of human prejudice and misunderstanding arises from this universal proclivity.

1.7. NEGATIVE TERMS.

There is a particular sort of empty terms that has been and is conspicuously dangerous to the thinker, the class of negative terms. The negative term is in plain fact just nothing; "Not-A" is the absence of any trace of the quality that constitutes A, it is the rest of everything for ever. But there seems to be a real bias in the mind towards regarding "Not-A" as a thing mysteriously in the nature of A, as though "Not-A" and A were species of the same genus. When one speaks of Not-pink one is apt to think of green things and yellow things and to ignore anger or abstract nouns or the sound of thunder. And logicians, following the normal bias of the mind, do actually present A and not-A in this sort of diagram:--

(the letter A inside a circular boundary, together with the words Not A, all inside a bigger circular boundary.)

ignoring altogether the difficult case of the space in which these words are printed. Obviously the diagram that comes nearer experienced fact is:--

(the word Not, followed by the letter A inside a circular boundary, followed by the letter A)

with no outer boundary. But the logician finds it necessary for his processes to present that outer Not-A as bounded (Vide e.g. Kayne's

"Formal Logic" re Euler's diagrams and Immediate Inferences.), and to speak of the total area of A and Not-A as the Universe of Discourse; and the metaphysician and the commonsense thinker alike fall far too readily into the belief that this convention of method is an adequate representation of fact.

Let me try and express how in my mind this matter of negative terms has shaped itself. I think of something which I may perhaps best describe as being off the stage or out of court, or as the Void without Implications, or as Nothingness, or as Outer Darkness. This is a sort of hypothetical Beyond to the visible world of human thought, and thither I think all negative terms reach at last, and merge and become nothing. Whatever positive class you make, whatever boundary you draw, straight away from that boundary begins the corresponding negative class and passes into the illimitable horizon of nothingness. You talk of pink things, you ignore, as the arbitrary postulates of Logic direct, the more elusive shades of pink, and draw your line. Beyond is the not-pink, known and knowable, and still in the not-pink region one comes to the Outer Darkness. Not blue, not happy, not iron, all the NOT classes meet in that Outer Darkness. That same Outer Darkness and nothingness is infinite space and infinite time and any being of infinite qualities; and all that region I rule out of court in my philosophy altogether. I will neither affirm nor deny if I can help it about any NOT things. I will not deal with not things at all, except by accident and inadvertence. If I use the word "infinite" I use it as one often uses "countless," "the countless hosts of the enemy"--or

"immeasurable"--"immeasurable cliffs"--that is to say as the limit of measurement, as a convenient equivalent to as many times this cloth yard as you can, and as many again, and so on and so on until you and your numerical system are beaten to a standstill.

Now a great number of apparently positive terms are, or have become, practically negative terms and are under the same ban with me. A considerable number of terms that have played a great part in the world of thought, seem to me to be invalidated by this same defect, to have no content or an undefined content or an unjustifiable content. For example, that word Omniscient, as implying infinite knowledge, impresses me as being a word with a delusive air of being solid and full, when it is really hollow with no content whatever. I am persuaded that knowing is the relation of a conscious being to something not itself, that the thing known is defined as a system of parts and aspects and relationships, that knowledge is comprehension, and so that only finite things can know or be known. When you talk of a being of infinite extension and infinite duration, omniscient and omnipotent and perfect, you seem to me to be talking in negatives of nothing whatever.

1.8. LOGIC STATIC AND LIFE KINETIC.

There is another infirmity of the mind to which my attention has been called by an able paper read this spring to the Cambridge Moral Science Club by my friend Miss Amber Reeves. In this she has developed a suggestion of Mr. F.C.S. Schiller's. The current syllogistic logic rests on the assumption that either A is B or it is not B. The practical reality, she contends, is that nothing is permanent; A is always becoming more or less B or ceasing to be more or less B. But it would seem the human mind cannot manage with that. It has to hold a thing still for a moment before it can think it. It arrests the present moment for its struggle as Joshua stopped the sun. It cannot contemplate things continuously, and so it has to resort to a series of static snapshots. It has to kill motion in order to study it, as a naturalist kills and pins out a butterfly in order to study life.

You see the mind is really pigeon-holed and discontinuous in two respects, in respect to time and in respect to classification; whereas one has a strong persuasion that the world of fact is unbounded or continuous.

1.9. PLANES AND DIALECTS OF THOUGHT.

Finally; the Logician, intent upon perfecting the certitudes of his methods rather than upon expressing the confusing subtleties of truth, has done little to help thinking men in the perpetual difficulty that arises from the fact that the universe can be seen in many different fashions and expressed by many different systems of terms, each expression within its limits true and yet incommensurable with expression upon a differing system. There is a sort of stratification in human ideas. I have it very much in mind that various terms in our reasoning lie, as it were, at different levels and in different planes, and that we accomplish a large amount of error and confusion by reasoning terms together that do not lie or nearly lie in the same plane.

Let me endeavour to make myself a little less obscure by a flagrant instance from physical things. Suppose some one began to talk seriously of a man seeing an atom through a microscope, or better perhaps of cutting one in half with a knife. There are a number of non-analytical people who would be quite prepared to believe that an atom could be visible to the eye or cut in this manner. But any one at all conversant with physical conceptions would almost as soon think of killing the square root of 2 with a rook rifle as of cutting an atom in half with a knife. One's conception of an atom is reached through a process of hypothesis and analysis, and in the world of atoms there are no knives and no men to cut. If you have thought with a strong consistent mental

movement, then when you have thought of your atom under the knife blade, your knife blade has itself become a cloud of swinging grouped atoms, and your microscope lens a little universe of oscillatory and vibratory molecules. If you think of the universe, thinking at the level of atoms, there is neither knife to cut, scale to weigh, nor eye to see. The universe at that plane to which the mind of the molecular physicist descends has none of the shapes or forms of our common life whatever. This hand with which I write is, in the universe of molecular physics, a cloud of warring atoms and molecules, combining and recombining, colliding, rotating, flying hither and thither in the universal atmosphere of ether.

You see, I hope, what I mean when I say that the universe of molecular physics is at a different level from the universe of common experience;--what we call stable and solid is in that world a freely moving system of interlacing centres of force, what we call colour and sound is there no more than this length of vibration of that. We have reached to a conception of that universe of molecular physics by a great enterprise of organised analysis, and our universe of daily experiences stands in relation to that elemental world as if it were a synthesis of those elemental things.

I would suggest to you that this is only a very extreme instance of the general state of affairs, that there may be finer and subtler differences of level between one term and another, and that terms may very well be thought of as lying obliquely and as being twisted through

different levels.

It will perhaps give a clearer idea of what I am seeking to convey if I suggest a concrete image for the whole world of a man's thought and knowledge. Imagine a large clear jelly, in which at all angles and in all states of simplicity or contortion his ideas are imbedded. They are all valid and possible ideas as they lie, none incompatible with any. If you imagine the direction of up or down in this clear jelly being as it were the direction in which one moves by analysis or synthesis, if you go down for example from matter to atoms and centres of force and up to men and states and countries--if you will imagine the ideas lying in that manner--you will get the beginnings of my intention. But our instrument, our process of thinking, like a drawing before the discovery of perspective, appears to have difficulties with the third dimension, appears capable only of dealing with or reasoning about ideas by projecting them upon the same plane. It will be obvious that a great multitude of things may very well exist together in a solid jelly, which would be overlapping and incompatible and mutually destructive when projected together upon one plane. Through the bias in our instrument to do this, through reasoning between terms not in the same plane, an enormous amount of confusion, perplexity, and mental deadlocking occurs.

The old theological deadlock between predestination and free will serves admirably as an example of the sort of deadlock I mean. Take life at the level of common sensation and common experience and there is no more indisputable fact than man's freedom of will, unless it is his complete

moral responsibility. But make only the least penetrating of scientific analyses and you perceive a world of inevitable consequences, a rigid succession of cause and effect. Insist upon a flat agreement between the two, and there you are! The instrument fails.

So far as this particular opposition is concerned, I shall point out later the reasonableness and convenience of regarding the common-sense belief in free will as truer for one's personal life than determinism.

1.10. PRACTICAL CONCLUSIONS FROM THESE CONSIDERATIONS.

Now what is the practical outcome of all these criticisms of the human mind? Does it follow that thought is futile and discussion vain? By no means. Rather these considerations lead us toward mutual understanding. They clear up the deadlocks that come from the hard and fast use of terms, they establish mutual charity as an intellectual necessity.
The common way of speech and thought which the old system of logic has simply systematized, is too glib and too presumptuous of certainty. We must needs use language, but we must use it always with the thought in our minds of its unreal exactness, its actual habitual deflection from fact. All propositions are approximations to an elusive truth, and we employ them as the mathematician studies the circle by supposing it to be a polygon of a very great number of sides.

We must make use of terms and sometimes of provisional terms. But we must guard against such terms and the mental danger of excessive intension they carry with them. The child takes a stick and says it is a sword and does not forget, he takes a shadow under the bed and says it is a bear and he half forgets. The man takes a set of emotions and says it is a God, and he gets excited and propagandist and does forget; he is involved in disputes and confusions with the old gods of wood and stone, and presently he is making his God a Great White Throne and fitting him up with a mystical family.

Essentially we have to train our minds to think anew, if we are to think

beyond the purposes for which the mind seems to have been evolved. We have to disabuse ourselves from the superstition of the binding nature of definitions and the exactness of logic. We have to cure ourselves of the natural tricks of common thought and argument. You know the way of it, how effective and foolish it is; the quotation of the exact statement of which every jot and tittle must be maintained, the challenge to be consistent, the deadlock between your terms and mine.

More and more as I grow older and more settled in my views am I bored by common argument, bored not because I am ceasing to be interested in the things argued about, but because I see more and more clearly the futility of the methods pursued.

How then are we to think and argue and what truth may we attain? Is not the method of the scientific investigator a valid one, and is there not truth to the world of fact in scientific laws? Decidedly there is. And the continual revision and testing against fact that these laws get is constantly approximating them more and more nearly to a trustworthy statement of fact. Nevertheless they are never true in that dogmatic degree in which they seem true to the unphilosophical student of science. Accepting as I do the validity of nearly all the general propositions of modern science, I have constantly to bear in mind that about them too clings the error of excessive claims to precision.

The man trained solely in science falls easily into a superstitious attitude; he is overdone with classification. He believes in the

possibility of exact knowledge everywhere. What is not exact he declares is not knowledge. He believes in specialists and experts in all fields.

I dispute this universal range of possible scientific precision. There is, I allege, a not too clearly recognised order in the sciences which forms the gist of my case against this scientific pretension. There is a gradation in the importance of the individual instance as one passes from mechanics and physics and chemistry through the biological sciences to economics and sociology, a gradation whose correlations and implications have not yet received adequate recognition, and which does profoundly affect the method of study and research in each science.

Let me repeat in slightly altered terms some of the points raised in the preceding sections. I have doubted and denied that there are identically similar objective experiences; I consider all objective beings as individual and unique. It is now understood that conceivably only in the subjective world, and in theory and the imagination, do we deal with identically similar units, and with absolutely commensurable quantities. In the real world it is reasonable to suppose we deal at most with PRACTICALLY similar units and PRACTICALLY commensurable quantities. But there is a strong bias, a sort of labour-saving bias, in the normal human mind, to ignore this, and not only to speak but to think of a thousand bricks or a thousand sheep or a thousand Chinamen as though they were all absolutely true to sample. If it is brought before a thinker for a moment that in any special case this is not so, he slips back to the old attitude as soon as his attention is withdrawn. This

type of error has, for instance, caught many of the race of chemists, and ATOMS and IONS and so forth of the same species are tacitly assumed to be similar to one another.

Be it noted that, so far as the practical results of chemistry and physics go, it scarcely matters which assumption we adopt, the number of units is so great, the individual difference so drowned and lost. For purposes of enquiry and discussion the incorrect one is infinitely more convenient.

But this ceases to be true directly we emerge from the region of chemistry and physics. In the biological sciences of the eighteenth century, common-sense struggled hard to ignore individuality in shells and plants and animals. There was an attempt to eliminate the more conspicuous departures as abnormalities, as sports, nature's weak moments; and it was only with the establishment of Darwin's great generalizations that the hard and fast classificatory system broke down and individuality came to its own. Yet there had always been a clearly felt difference between the conclusions of the biological sciences and those dealing with lifeless substance, in the relative vagueness, the insubordinate looseness and inaccuracy of the former. The naturalist accumulated facts and multiplied names, but he did not go triumphantly from generalization to generalization after the fashion of the chemist or physicist. It is easy to see, therefore, how it came about that the inorganic sciences were regarded as the true scientific bed-rock. It was scarcely suspected that the biological sciences might perhaps after all

be TRUER than the experimental, in spite of the difference in practical value in favour of the latter. It was, and is by the great majority of people to this day, supposed to be the latter that are invincibly true; and the former are regarded as a more complex set of problems merely, with obliquities and refractions that presently will be explained away. Comte and Herbert Spencer certainly seem to me to have taken that much for granted. Herbert Spencer no doubt talked of the unknown and unknowable, but not in this sense as an element of inexactness running through all things. He thought, it seems to me, of the unknown as the indefinable Beyond of an immediate world that might be quite clearly and definitely known.

There is a growing body of people which is beginning to hold the converse view--that counting, classification, measurement, the whole fabric of mathematics, is subjective and untrue to the world of fact, and that the uniqueness of individuals is the objective truth. As the number of units taken diminishes, the amount of variety and inexactness of generalization increases, because individuality tells for more and more. Could you take men by the thousand billion, you could generalize about them as you do about atoms; could you take atoms singly, it may be that you would find them as individual as your aunts and cousins. That concisely is the minority belief, and my belief.

Now what is called the scientific method in the physical sciences rests upon the ignoring of individualities; and like many mathematical conventions, its great practical convenience is no proof whatever of its

final truth. Let me admit the enormous value, the wonder of its results in mechanics, in all the physical sciences, in chemistry, even in physiology,--but what is its value beyond that? Is the scientific method of value in biology? The great advances made by Darwin and his school in biology were not made, it must be remembered, by the scientific method, as it is generally conceived, at all. His was historical research.
He conducted research into pre-documentary history. He collected information along the lines indicated by certain interrogations; and the bulk of his work was the digesting and critical analysis of that. For documents and monuments he had fossils and anatomical structures and germinating eggs too innocent to lie. But, on the other hand, he had to correspond with breeders and travellers of various sorts; classes entirely analogous, from the point of view of evidence, to the writers of history and memoirs. I question profoundly whether the word "science," in current usage anyhow, ever means such patient disentanglement as Darwin pursued. It means the attainment of something positive and emphatic in the way of a conclusion, based on amply repeated experiments capable of infinite repetition, "proved," as they say, "up to the hilt."

It would be of course possible to dispute whether the word "science" should convey this quality of certitude, but to most people it certainly does at the present time. So far as the movements of comets and electric trams go, there is no doubt practically cock-sure science; and Comte and Herbert Spencer seem to me to have believed that cock-sure could be extended to every conceivable finite thing. The fact that Herbert

Spencer called a certain doctrine Individualism reflects nothing on the non-individualizing quality of his primary assumptions and of his mental texture. He believed that individuality (heterogeneity) was and is an evolutionary product from an original homogeneity, begotten by folding and multiplying and dividing and twisting it, and still fundamentally IT. It seems to me that the general usage is entirely for the limitation of the word "science" to knowledge and the search after knowledge of a high degree of precision. And not simply the general usage; "Science is measurement," Science is "organized commonsense," proud in fact of its essential error, scornful of any metaphysical analysis of its terms.

Now my contention is that we can arrange the fields of human thought and interest about the world of fact in a sort of scale. At one end the number of units is infinite and the methods exact, at the other we have the human subjects in which there is no exactitude. The science of society stands at the extreme end of the scale from the molecular sciences. In these latter there is an infinitude of units; in sociology, as Comte perceived, there is only one unit. It is true that Herbert Spencer, in order to get classification somehow, did, as Professor Durkheim has pointed out, separate human society into societies, and made believe they competed one with another and died and reproduced just like animals, and that economists following List have for the purposes of fiscal controversy discovered economic types; but this is a transparent device, and one is surprised to find thoughtful and reputable writers off their guard against such bad analogy. But indeed it is impossible to isolate complete communities of men, or to trace

any but rude general resemblances between group and group. These alleged units have as much individuality as pieces of cloud; they come, they go, they fuse and separate. And we are forced to conclude that not only is the method of observation, experiment, and verification left far away down the scale, but that the method of classification under types, which has served so useful a purpose in the middle group of subjects, the subjects involving numerous but a finite number of units, has also to be abandoned in social science. We cannot put Humanity into a museum or dry it for examination; our one single still living specimen is all history, all anthropology, and the fluctuating world of men. There is no satisfactory means of dividing it, and nothing else in the real world with which to compare it. We have only the remotest ideas of its "life-cycle" and a few relics of its origin and dreams of its destiny.

This denial of scientific precision is true of all questions of general human relations and attitude. And in regard to all these matters affecting our personal motives, our self-control and our devotions, it is much truer.

From this it is an easy step to the statement that so far as the clear-cut confident sort of knowledge goes, the sort of knowledge one gets from a time-table or a text-book of chemistry, or seeks from a witness in a police court, I am, in relation to religious and moral questions an agnostic. I do not think any general propositions partaking largely of the nature of fact can be known about these things. There is nothing possessing the general validity of fact to be stated or known.

1.11. BELIEFS.

Yet it is of urgent practical necessity that we should have such propositions and beliefs. All those we conjure out of our mental apparatus and the world of fact dissolve and disappear again under scrutiny. It is clear we must resort to some other method for these necessities.

Now I make my beliefs as I want them. I do not attempt to distil them out of fact as physicists distil their laws. I make them thus and not thus exactly as an artist makes a picture so and not so. I believe that is how we all make our beliefs, but that many people do not see this clearly and confuse their beliefs with perceived and proven fact.

I draw my beliefs exactly as an artist draws lines to make a picture, to express my impression of the world and my purpose.

The artist cannot defend his expression as a scientific man defends his, and demonstrate that they are true upon any assumptions whatsoever. Any loud fool may stand in front of a picture and call it inaccurate, untrustworthy, unbeautiful. That last, the most vital issue of all, is the one least assured. Loud fools always do do that sort of thing. Take quite ignorant people before almost any beautiful work of art and they will laugh at it as absurd. If one sits on a popular evening in that

long room at South Kensington which contains Raphael's cartoons, one remarks that perhaps a third of those who stray through and look at all those fine efforts, titter. If one searches in the magazines of a little while ago, one finds in the angry and resentful reception of the Pre-Raphaelites another instance of the absolutely indefensible nature of many of the most beautiful propositions. And as a still more striking and remarkable case, take the onslaught made by Ruskin upon the works of Whistler. You will remember that a libel action ensued and that these pictures were gravely reasoned about by barristers and surveyed by jurymen to assess their merits...

In the end it is the indefensible truth that lasts; it lasts because it works and serves. People come to it and remain and attract other understanding and enquiring people.

Now when I say I make my beliefs and that I cannot prove them to you and convince you of them, that does not mean that I make them wantonly and regardless of fact, that I throw them off as a child scribbles on a slate. Mr. Ruskin, if I remember rightly, accused Whistler of throwing a pot of paint in the face of the public,--that was the essence of his libel. The artistic method in this field of beliefs, as in the field of visual renderings, is one of great freedom and initiative and great poverty of test, but of no wantonness; the conditions of rightness are none the less imperative because they are mysterious and indefinable. I adopt certain beliefs because I feel the need for them, because I feel an often quite unanalyzable rightness in them; because the alternative

of a chaotic life distresses me. My belief in them rests upon the fact that they WORK for me and satisfy my desire for harmony and beauty. They are arbitrary assumptions, if you will, that I see fit to impose upon my universe.

But though they are arbitrary, they are not necessarily individual. Just so far as we all have a common likeness, just so far can we be brought under the same imperatives to think and believe.

And though they are arbitrary, each day they stand wear and tear, and each new person they satisfy, is another day and another voice towards showing they do correspond to something that is so far fact and real.

This is Pragmatism as I conceive it; the abandonment of infinite assumptions, the extension of the experimental spirit to all human interests.

1.12. SUMMARY.

In concluding this first Book let me give a summary of the principal points of what has gone before.

I figure the mind of man as an imperfect being obtaining knowledge by imperfect eyesight, imperfect hearing and so forth; who must needs walk manfully and patiently, exercising will and making choices and determining things between the mysteries of external and internal fact.

Essentially man's mind moves within limits depending upon his individual character and experience. These limits constitute what Herbart called his "circle of thought," and they differ for everyone.

That briefly is what I consider to be the case with my own mind, and I believe it is the case with everyone's.

Most minds, it seems to me, are similar, but none are absolutely alike in character or in contents.

We are all biassed to ignore our mental imperfections and to talk and act as though our minds were exact instruments,--something wherewith to scale the heavens with assurance,--and also we are biassed to believe that, except for perversity, all our minds work exactly alike.

Man, thinking man, suffers from intellectual over-confidence and a vain

belief in the universal validity of reasoning.

We all need training, training in the balanced attitude.

Of everything we need to say: this is true but it is not quite true.

Of everything we need to say: this is true in relation to things in or near its plane, but not true of other things.

Of everything we have to remember: this may be truer for us than for other people.

In disputation particularly we have to remember this (and most with our antagonist): that the spirit of an utterance may be better than the phrase.

We have to discourage the cheap tricks of controversy, the retort, the search for inconsistency. We have to realize that these things are as foolish and ill-bred and anti-social as shouting in conversation or making puns; and we have to work out habits of thought purged from the sin of assurance. We have to do this for our own good quite as much as for the sake of intercourse.

All the great and important beliefs by which life is guided and determined are less of the nature of fact than of artistic expression.