

## II.—THE PHILOSOPHY OF BERGSON.

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THE central idea of Bergson's philosophy is as old as Heraclitus, that of an incessant becoming; its peculiar merit is that it leads us to understand far better the principle and the effects of the eternal flux. In the inner world of consciousness we can perceive that flux directly, and to the inner world exclusively Bergson devotes the first of his works, the *Données Immédiates de la Conscience*. But that his latest work, that on Evolution, stands in the closest relation to his earliest Bergson expressly points out in the preface to the latter. For the idea developed in both is that of growth and enrichment. As the bud grows into flower and fruit, so the living body ripens, ages, and throws off fresh living bodies, so species evolve into higher species, so perhaps the world as a whole is ever re-creating itself. But in objective things we see only the effects of the process, in the world of consciousness we see the process itself; we see a psychical mass of elements perhaps separable but never separated always interpenetrating, moving on as a whole towards an adaptation to our present environment—an adaptation which is essentially Action, but which involves also all that we call recognition, knowledge, instinct. Such a consciousness has a history; its life is not a mere filling of successive moments of abstract time with a content now new, now old; it is a movement, in which there is no repetition, no subjection to general laws—a movement individual and irreversible. It has temporal predicates; there is in its life an earlier and a later, length and brevity; but its length is never that of so many moments of abstract time but a certain duration having a fixed 'protensive' *quality*; the hour-long toothache is not two toothaches each of half an hour's length or sixty minute-toothaches. An old, or rather effete, apophthegm tells us 'History is philosophy teaching by examples'; but 'example' has a meaning, general laws—which is what is here understood by 'philosophy'—have a meaning, only where there is repetition; but history never repeats itself.

Every nation is vitally different from every other nation ; and if a nation ever finds itself again in an old environment, it will react to it, as an individual would, in a different way, just because its growth in the interval has left it no longer the same.

But if living things, conscious or unconscious, with souls or without souls, may correctly be described as in endless, irreversible movement, in which no repetition is possible and no general law can be discerned, are there not inanimate things with no principle of movement, ever repeating themselves—at least while isolated from other influences—and essentially subject to general laws ? How then can the world as a whole, which is largely composed of such things, be conceived as engaged in the same process of continual self-creation that we perhaps rightly attributed to living things ? Does not science exist to confute such fancies ? if it has admittedly up to the present failed to understand the living, has it not grasped general laws which enable us successfully to predict the interactions of the non-living ? does it not find, and even of itself produce, endless repetitions among the phenomena of the non-living ? We do not deny it. But to predict or even to produce is not to explain. In all, even physical, phenomena there is something which science cannot, but happily need not, explain—succession ; if, as Bergson puts it, the melting of sugar in water takes time, there is in some sense a history even to sugar. The dream of science is to discover causes which involve their effects, which *are* their effects ; but if ever the cause were the effect, then there would be no cause, no effect at all.

And this brings us to a second idea ever running through Bergson's work, his depreciation of intelligence, the very faculty exercised in science and in the perception on which science is built. He thus ventures on a 'Theory of Knowledge,' a theory which many thinkers from Lotze to Mr. Prichard in his recent able work on Kant have come to regard as a useless superfetation. But Bergson's theory is very different from Kant's. It is a consequence of his thorough-going belief in evolution, creative evolution of new and higher forms of life. He holds evolution to have taken place on three different lines—the line of Automatism, exhibited in plants ; the line of Instinct, exhibited pre-eminently in the Hymenoptera ; the line of Intelligence, exhibited in the Vertebrates and carried to its highest in Man. At the basis of these modes of evolution, as at the basis of each particular living individual, is a general Life-Force or '*Élan de vie*,' ever pushing on to organisations more free and more effec-

tive in dealing with the brute matter of the environment. But because this life-force held suspended in it different tendencies which had to separate as they grew, it ultimately developed itself along divergent lines, achieving at the terminus of each an extraordinary success in the execution of its main purpose, but by the radically different methods of vegetism, instinct, and intelligence; the view, in some form as old as Aristotle and still commonly held, that the vegetal automatism is the original basis on which instinct arises, and that intelligence develops from instinct, or at least that there is some community between the last two, Bergson regards as radically false and disproved by the facts of evolution. We cannot for the present unfold these ideas further. But what is intelligence, what is the characteristic faculty of man, by which he has attained so marvellous a command of his environment? It is something much more definite than a vague power of adaptation. It is the capacity for fabrication, for making out of the inorganic, to some extent even out of the organic, world, *instruments*, themselves inorganic and external to their creator, for the satisfaction of his wants, fire and clothes to keep him warm, a house to keep him dry, fishing-rods and arrows to procure him food. But what is the psychical capacity on which this power rests? It is man's power of *detaching* from the fluent continuum which is absolute reality fixed things or fixed systems, the essence of which—so far as we can or need to determine them—is just that repetition, that obedience to law, which we do not find in the living individual nor perhaps in Nature at all, if taken as a whole. Intelligent action is the action that assumes such fixity, intelligence is just the conscious assumption of it. What we call logical principles and categories of the understanding are just the assumptions, but assumptions now consciously grasped, of a mode of action found to some degree in all vertebrates, but in an infinitely higher degree in man. But that mode of action and therefore those conscious assumptions are the products of evolution; how then can they be the principle of evolution itself? and if animals live and grow in their bodies, their thoughts and character—their souls in short—by a kind of evolution, how can we expect that the intelligence and its categories should explain this life and growth? The seeming absoluteness then of the ideas of the understanding, of natural law, of uniformity, of causation, of unity and identity, of multiplicity, of non-contradiction, is illusory. We men can attain no success except by using them, and where we use them successfully they must be approximately true. But there is the wide domain

of the living in which they meet with no success ; to insist on applying them there is merely blindly to practice a natural habit, the mental habit of the human species. The primitive form of such habit is Perception, by which we isolate and are thus able to use single fixed things ; the more refined form is physical science, by which we isolate or construct fixed systems. But neither perception nor science gives us the ultimate truth ; intelligence is not the final arbiter. It is the great divider, and it trusts as implicitly as the conqueror to the maxim 'divide et impera'. The true motto of the human species is 'Natura non nisi dividendo vincitur' ; its conquests are made by the violation, the disorganisation of nature. The more familiar 'Natura non nisi parendo vincitur' is the motto, we shall find, of instinct, of the bee and the ant.

Bergson's *Données* with wonderful sureness and insight shows, as we have said, that the conscious life is a continuous growth, a real whole that changes as a whole, no merely apparent whole in which certain immutable elements, obeying as to their mutual relations immutable laws, effect apparent changes in the whole by reconstructions now here, now there, in its substance. It is no mere succession of precisely definable states, ever repeated with an equal or different intensity, associated with one another or free from such association. A self-conscious mind cannot be this, for "a succession of perceptions is not a perception of succession". Nor can the 'parts' of a mental state be really separate and juxtaposed ; we directly feel their interpenetration, the integrity of the soul. The second chapter of the *Données* defends this thesis. The first helps in destroying the crude notion of separable definable mental states by showing that we do not experience the same state in varying degrees of intensity as commonsense and the psycho-physicists suppose ; but that the so-called different intensities of a single sensation, effort, sentiment, emotion are really different sensations or emotions altogether.

Let us speak first of the admirable first chapter, a chapter which no one can read without feeling that a new power has arisen in the philosophical world. Intensity is a kind of magnitude, as even Kant acknowledged by his antithesis of intensive and extensive magnitudes. But magnitude is spatial or it is nothing ; the greater contains the less, it is the less with something added to it. But who can think of a heat of  $90^{\circ}$  as a heat of  $60^{\circ}$  + a heat of  $30^{\circ}$  ? or of a great joy as a sum of smaller joys ? or of a great effort as a sum of smaller efforts ? Each sensible 'degree' of heat has its own special quality ; and so has each degree of illumination and

of saturation, no less than each shade of colour. What then is that difference which is signified by 'more and less intense'? and why do we identify it with the difference between the large and the small? We must not give the same answer in every case. In sensation the magnitude of the external object, in effort the magnitude of the external movement, no doubt counts for something in our consciousness and gives the appearance of largeness and smallness to the sensation or effort itself. But the profounder explanation of the seemingly various intensities of the same effort, the only explanation of the seemingly various intensities of the same emotion is that the 'intenser' is radically different from the less intense. An intenser joy is not a dilatation of the same joy; it is the coloration of a greater number of elements in our mental life; in its extreme form it makes all our feelings and our perceptions different from what they were. An intense pain, says the psychologist, 'irradiates' to new elements; in fact the irradiation is not a property of the intensity, it is the intensity. A greater effort is not a greater tension of the same part of the body, it is a tension spreading to a greater number of parts. If we extend the arm and slightly bend the first finger without contracting a muscle of the hand, we may feel a considerable expenditure of energy: but this comes from the simultaneous fixation of the muscles of the chest, the closing of the glottis, the active contraction of the respiratory muscles (D. 15-19).

The psycho-physicists then, who profess to measure mental states, build on a rotten foundation. Indeed common sense recoils from the conclusions to which they push its own assumption. Consciousness finds no meaning in that 'minimum increment of sensation' and the equality 'of all such minima' which are the fundamental assumptions of Fechner; nor yet in an equality of the differences between two pairs of sensations, on which the experiments of Delboeuf rest (D. 42-4).

But, when we have granted the interpenetration of all the elements of consciousness at a single moment, there still remains the doctrine lightly dismissed by us on page 18, that, after all, the conscious life is a succession, and so consists of real parts really juxtaposed, only not in space but in time. Does not Kant say that Time is the form of inner perception, as Space of Outer Perception? Now against this view Bergson never ceases to protest. His crusade against abstract Time is in fact one phase of his fundamental doctrine, as the constant self-creation of living things—perhaps even of the whole universe,—or his protests against the inadequateness

of intelligence are others. For to postulate abstract time is to break up the continuous process which is the essence of reality into an infinite number of stationary parts each of which corresponds to or occurs in 'a moment of time'. Such a comminution the intelligence makes and, as the characteristic and within limits the successful method of human action, is justified in making. But in doing so it gets rid of the continuous process of reality altogether and so far falsifies reality. And what does it substitute for it? There is a real concrete time, part of things themselves, the duration—felt by the living, unfelt by the inanimate—which belongs to their changes. But intelligence substitutes for this an abstract time, an homogeneous measurable medium, a conception fraught with endless self-contradiction. For it is at once an ever disappearing and yet a persistent reality, instantaneous and yet eternal, *εἰκὼ κινήσων τοῦ αἰῶνος*, as Plato says in the *Timæus*. But this monster is really but a 'bastard' of space, an application of space to a region where space is inapplicable. For separateness, divisibility, numerability, number itself are conceivable only where space, real or ideal, is presupposed. If the things we count are merely in time, then each passes away as it is noted; to make a whole, i.e. to be really counted, they must *remain*, i.e. they must all be in one space, real or ideal. We do not—to use Bergson's illustration—count the men in a regiment when we call the roll of it.

That abstract time is merely space over again is shown by our imagining it as a line. That the image is unworkable appears as soon as we have to speak of 'the movement of time'. We have to add to our line an object moving uniformly along it. In fact when we assign to a process a certain length of time we really mean that the process ends simultaneously with the arrival of the standard object at a certain point on the line, its movement having commenced simultaneously with the commencement of the process. And this is all that our measurements of time tell us, the simultaneities between one process and another, the standard process being chosen for its uniformity, and the ultimate test of its uniformity being nothing but this, that we *feel* it to be uniform, whether it be the movement of the sun in the sky, or that of a pendulum. Of a mysterious monster, time, whose essence it is to move uniformly, the man of science knows nothing. Of movement, then, itself science tells us nothing, but only of simultaneities between different movements. But these are just what for the purposes of practice we really want to know. Suppose everything moved twice

as fast as at present, our limbs included ; our feelings would be very different ; but our actions would need no alteration ; nor would our mathematical 'equations of motion'. The paradoxes of Zeno—whether obviously absurd as 'the flying arrow rests,' 'a time is double itself,' or plausible as that of Achilles and the tortoise—all rest on the identification of Movement itself with the line traversed by it. Because that is divisible as we please, it is assumed that the movement is so : and we placidly take for granted that Achilles' movement is fairly represented by steps taken as and when the tortoise takes its steps, only ten times, say, as long. Bergson recurs often to these paradoxes.

But now, says Bergson in chapter iii., determinists and libertarians wage a contest over our liberty, endless, because both take that view of conscious life which we have already refuted. If our life were merely a succession of 'moments' at each of which was to be found an aggregate of distinct tendencies each of a given strength, then it seems impossible to deny that the actions performed would be fatally determined. But this is the view of intelligence, analysing after its usual fashion a *given* or *made* whole ; it is retrospection over our past. But living is not retrospection—except possibly in morbid cases, where the spring of life is broken, the man feels himself a prisoner of his past, and asks despairingly, 'What else can such a being as I do?' Knowledge looks backward, it sees a road traversed ; life looks forward, it makes a road. When we have to act, we do not feel ourselves a mere collection of tendencies of definite strength ; nay, as we have shown, the very idea of 'the strength' of a tendency is a false one ; we feel, as we are making up our mind, that a particular tendency is now less, now more absorbing. It is only the outside spectator or ourselves, when the action is over, that can map our soul into tendencies and assign each a definite strength. Ultimately the determinist's argument is 'I cannot see how I could have acted otherwise'—which is an attitude of retrospection, not of living. But the libertarian is just as much retrospective, just as ignorant of the real movement of life. Only, looking back to a point farther back than the determinist, to a point preceding the movement which issued in the present act, he says 'I see that I could have acted otherwise ; I do not see anything that forced me to act as I have done'.

But conscious life is found only in connexion with living body. Is it in such dependence on the latter as will force us to retract the view we have given of it above? What is a living body, and what does it do? Is it essentially the same



as inanimate matter, only wrought into an organized individual where every part tends to serve every other? or is it some entirely new substance? These are the questions—biological, psychological, metaphysical—considered in *Matière et Mémoire*. Its answer is that even where the conscious life seems most dependent on the body, in perception and memory, its life is yet essentially spiritual. A life-force, essentially such as we have recognized in the conscious life, has been gradually insinuating itself into matter, adapting matter more and more precisely and comprehensively to become the organ of its further action. If it has become imprisoned in the living body, it has at least made its prison-house to suit itself.

The living body, say of man, perceives, feels, and acts upon the bodies that surround it. Its action on them presents no special difficulty, it is just one case of the action of matter on matter. But what of its perception? is that the converse of its action, is it the action of the surrounding matter on the human body? In that case the action of matter on matter would produce something entirely novel and mysterious, a representation of the agent. The materialist boldly says that it does; that, in addition to the material effect on nerves and brain, there is further produced in the latter a shadow—surely a most inappropriate name—of the material effect, an extra or epi-phenomenon, powerless as all shadows are, and in no way accounting for anything that follows. Common-sense, repelled by this conclusion, while taking perception to be in the first place a material action on the brain, supposes its effect on the brain to be translated into a state or phase of the immaterial mind, a representation of the external object, or—as the idealists would say—something out of which the external object is constructed. But the brain is just one part of the general material system and connected with the rest by physical laws; if they are images, so is the brain; if the brain is real, so are they. Materialism, common-sense, idealism, however much they differ, agree in the impossible postulate that the part somehow contains the whole.

Bergson's view is very different. He holds that life is action, adaptation, utilisation, that perception is 'an annex to action,' practical not contemplative, and possible therefore only in relation to the present, which alone acts and can be acted on. Our elaborate nervous system is only an immense complication by successive differentiation and dissociation of the formless amoeba, in whose uniform contractility and excitability perception and action are fused and indistinguish-



able, in which "touch is at once active and passive, and the instrument of perception is also a means of defence". With us they seem separated; perception and action seem two wholly different kinds of consciousness; and the bodily organs of each seem not less separate. But let us assume—what alone seems reasonable—that in us, as in the amoeba, movement is given to the body from the external and returned by it to the external, only by a far greater variety of routes, since in us endless motor nerves *can* be connected in 'the great telephone exchange' of the brain with endless sensory nerves. The question then remains—what determines the actual connexion, what determines the specific route taken? Bergson answers, Spirit, the Life whose principle is adaptation, utilisation. Whenever we intelligently act, a question has been put to the motor activity and answered; but the same should be said whenever we perceive. All perception is nascent action, action ready to be executed but not yet executed; choice has taken place, but execution can be postponed. Hence in our reflex re-actions—say of blinking at light—there is no perception, because execution is immediate, and the act is not chosen but necessary; hence in the amoeba perception is fused in action, because the amoeba is sensitive only to what is in contact with it and its re-action cannot be postponed, while the simplicity of its system allows it no choice of routes for its re-action. But Man is sensible to the distant and takes an active attitude towards it before execution is absolutely necessary, an attitude in which there is an element of choice. This attitude is perception itself. Only in this way can the variability in our perception of the same object be understood; and in a sense Bergson would accept Plato's view that perception does not give knowledge. But none the more does he accept the idealistic view that perception is a merely subjective condition, a 'hallucination vraie,' from which external objects are constructed by a mysterious 'projection'. The perception gives the real, the external, but only so much of it as *may* affect us and be affected by us; and this awakens a consciousness in us just because of our freedom of action in respect to it. So far as its effects on us and our consequent movement are not merely possible but actual and necessarily determined by physical laws, we may have sensation proper, a truly subjective state; but perceive we do not. We feel, say, an increasing heat; we do not perceive the fire that causes it. True perception is the reflexion thrown by our freedom on that which awakens it to action. But this reflexion is no mere image in us of a thing without us. If

we must call it an 'image,' it is at least no more an image than what the most thorough-going materialism would call the ultimate elements of the world, matter and movement. If this language implies 'relativity,' it is only the relativity defined in what Mill (*Hamilton*, ch. ii.) justly calls 'the insignificant truism,' that 'our knowledge is relative to us inasmuch as it is we that know it'. We must only add that we are speaking of *pure* perception, entirely unqualified by memory, which of course adds a personal element, as when one who has had experience of ice 'perceives,' in merely seeing it, its coldness—a quality entirely invisible to one unfamiliar with ice. And memory, if Bergson is right, may qualify our perception in a different way. For the rhythm of our life may be entirely different from that of the object; a moment of our life may contain many moments of the object's; thus what is for us an instantaneous perception of red light corresponds to 400 billion vibrations in the object; in fact all 'the sensible qualities' of objects seem to be perceptions into which an enormous number of the object's moments are contracted, seem in short to involve a memory. But if for the moment we neglect this, we may say that 'pure perception' is an instantaneous and impersonal contact with real objects. We feel it at first as impersonal; it is only later that we discover among the images it gives one—that of our own body, namely—which remains invariable, while all the others vary with change in our body's position. But common-sense, when it discovers this, does not fly to the conclusion that all our perceptions are merely subjective; and it is only a false logic that has forced philosophers to do so. Matter then is something including and greater than our perceptions; it is not something intrinsically different from them.

Finally, we said above (p. 17) that man's characteristic power, the intelligence, is shown in 'detaching from the fluent continuum which is absolute reality fixed things'. Obviously perception does this; and if our account of the nature of perception is correct, this is what we should expect it to do. But since the power of man is so much greater than that of animals, that of the adult so much greater than that of the child, we should expect 'the fixed things' which each detaches from the continuum to be very different. That they are so is a commonplace to all who have observed children in the open air. 'A slight ridge,' says Sir G. Trevelyan in his delightful account of Macaulay's boyhood, '*the very existence of which no one above eight years old would notice*, was dignified with the title of the Alps'. 'Chaque

être,' says Bergson (*E.C.*, 396, 7), 'décompose le monde matériel selon les lignes mêmes que son action y doit suivre.' Scientific man marks off not things but systems of things; or divides things to any extent he may find feasible or desirable. This potentiality of divisibility is what he expresses in the conception of Space, which is just the 'schema' of divisibility, not sensible but 'a form of sensibility'; only not of universal sensibility but only of that of the physicist or geometer.

Perception then involves our own body and external bodies; it is the nascent adaptive action of the former on the latter. But what are we to say of memory and its images? As dispensing with an external object it might seem purely spiritual. But it depends on previous perceptions, it seems even to common-sense to store them 'in our heads,' and it is certainly affected by damage to the brain. We cannot then doubt that it is somehow connected with matter, if not altogether material. And yet the storehouse theory of memory has most serious difficulties. For why should the contents of the storehouse ever re-appear? and why should they re-appear with that modification that makes us regard them as *past*? if they went in perceptions, why should they come out something else? These are further problems of *Matière et Mémoire*. Bergson concludes, as we shall see, that memory can only be explained from the spiritual part of man; that all the phenomena of it, normal and pathological, are compatible with such a theory only. The problem has an importance as great for metaphysics as for psychology. For if memory can be materialised, then the very fortress of thought has been captured by the materialist, since the connexion of thinking with memory is obvious, and is in fact implied in most languages; to 'think of,' in English, is synonymous with 'to recall'.

It has been commonly held since Hume that memory-images are but fainter perception-images. The great objection to this is that the former are felt as past, the latter as present and acting. Bergson accordingly holds that the first condition of the memory-image is, that *d'emblée*, from the outset, we should by a purely mental act, pure memory, place ourselves in thought in the past; out of this attitude there grow up, he holds, nebulous at first but ever more distinct, images becoming constantly more and more like those of perception; but they must be felt to have their roots in the past, and that is why they are felt as past.

Yet there is undoubtedly a close approximation between the memory- and the perception-image, close enough to make

Hume's view seem very plausible; and this approximation proceeds not merely from the side of memory, but from the side of perception as well. For when we 'see' the coldness of ice or the heat of steaming water (p. 24), we have a perception which is at bottom a memory. And so long as we take a merely static view of the memory- and the perception-image, we may like Prof. Stout—perhaps the first among living English psychologists—protest against the identification of the two, but we are powerless to resist it. Bergson shows us the root of the error. It lies in this, that our understanding, as we said on page 17, by its fixed habit picks out the stable from the fluid, notes the end and ignores the process in which it is a stage. We have indeed the words 'process' or 'movement'; but we can make no use of them for scientific determination; they remain mere abstractions, reminding us of the essential feature of our conscious life and probably of all life, but incapable of use in calculation, production, or prediction. And yet they express the ultimate reality. And we see this in our present example. We try to define the memory-image and entirely fail to distinguish it from the perception-image, in spite of all the protests of our consciousness. But the radical difference between them is in the processes in which they are merely termini; and the process ending in the memory-image is one, as we have already said shortly and shall presently show in more detail, that starts in the mind, though it may fuse in an active perception which undoubtedly involves the body.

Will it be said that we have images, due to past experience, but not 'memory-images,' not professing to be copies of the past; and that these by a sort of attraction to the perception—we remember Hume's idea that 'attraction' might be the great principle of the mental as of the physical world—fuse or identify themselves with the perception and thus enrich it or make it more familiar to us? But in fact what we have pointed out is that a 'mere image' is a dried, inert abstraction; how could such an image accept as the same what we call the same word but what is really a multitude of different sounds according to the pitch or dialect in which it is pronounced? or how is it that the same sound 'attracts' quite different images according to the context in which it occurs? But the fact is that an image is a stage in a process, and we should not speak of 'the image' as if it were something absolutely definite. In fact it never is so. Not merely have different people different powers of 'visualisation,' i.e. they attach different visual images to the same word, but each of us has different images according to the

needs of the occasion; the memories that recur even of the same experience will be of different degrees of particularity; or, as Bergson puts it, 'Memory has several planes'. At its most diffused or detailed plane it is the memory of the dreamer, who revels in the past but never applies it; at its narrowest plane it is the memory of the man of action who puts himself in the past merely to obtain the general extract of it that will fuse with his actual perception. We are learning to make a distinction unknown to our fathers between 'idea' and 'image,' to see that an 'idea' at least is a process, and that we have 'ideas' of much—say of the English Constitution—of which we could not have 'images'. We have only to proceed further on this path to see that the image itself is a creation prompted by the same purposes as the idea, varying therefore with that purpose and never twice the same even in the same person. Such phrases as a 'clear idea' or a 'perfect image' are misleading, there is no such absolute ideal for either image or idea as such phrases set up; each is a creation for a purpose and each is perfect so far as it fulfils the purpose. The thinkers who speak of perfect and imperfect images are just those who speak of a store-house of images. But is it a perfect or an imperfect image that is stored there? if perfect, how does it ever come out imperfect? if imperfect, how does it ever come out perfect? But there are no such stored images, fetched out or awakened by the act of perception. Not the perception elicits the image, but the image comes out to meet and fuse with the perception as the whole self struggles to adapt itself to the present environment.

To make this idea clearer Bergson takes the case of our apprehension of spoken words. The same case has been taken by Prof. Stout in his excellent chapter on 'Implicit Apprehension' (*Analytic Psychology*, i., 78-96), and his conclusions, though more vaguely expressed, agree with Bergson's. He, too, sees that the view that speech is apprehended by the hearer through the resuscitation in him by each word of a corresponding image is contradicted by experience; that 'images' rarely arise in him at all, but that a vague apprehension of the speaker's total drift first emerges and is then defined by, but in its own way also colours and helps to fix the relations of, the words actually heard. We know that in the development of language the sentence precedes the word; that the first step in an infant's apprehension of language is to feel as a whole what the speaker means, or rather what he wants. So in listening the hearer's whole personality reacts to adapt itself to the meaning, the purpose of the speaker; but such reaction, like thought generally, is a *move-*

*ment*, and therefore not to be represented by 'images' which are *things* (*Matière*, 133). Common experience shows and experiments have definitely proved (*ib.*, 106) that there is a vast amount of divination in our understanding not merely of the 'winged' word but even of *littera scripta*. We ourselves once thought we saw a tradesman's name twice stamped in consecutive lines above his shop-front; the fact was that there was but one set of letters, but a crack extended across them from the bottom left hand to the top right hand corner. Such 'divination,' Bergson justly contends, is fatal to the mechanical theory of memory. Bergson's superiority is that he shows clearly what does occur as well as what is falsely supposed to occur, while Prof. Stout is content with the complementary metaphors of 'image' and 'image-less fringe'.

The Past does not leave behind a deposit of images in 'imaginative brain-centres,' nor is an 'apperceptive centre' needed to re-awaken them. But we may assume that the past experiences of a living being are never lost (Ball, ap. *Matière*, 168 note). They are still present with us in our character; why then should they be incapable of re-appearing as representations? In pathological cases they have been found to re-appear in unexpected, even in startling ways. But into our normal consciousness, 'orientated' as it is by the very constitution of the sensori-motor nervous system towards action, they will not for all their forward pressure gain admission except they promote action, except they help us to 'answer the question put to our motor activity'. Just as far as they are impotent for this we are unconscious of them. But it is an empty logic that would deny the existence of 'unconscious mental states,' not less empty than the logic of Berkeley that would deny the existence of unperceived things. Common-sense repels the latter doctrine because it has to admit a possible efficacy in regions of space outside that which we are observing; it accepts the former because it sees no possible efficacy in the region of time outside the present. But we have seen that the past experience shows its efficacy in the mould it has given to our present *character*; it moulds also our present *perception* in the shape of such 'images' from it as will insert themselves in our present perceived environment, as when we see the coldness as well as the blueness of the ice-block in the glacier we are crossing and shrink from contact with it; or when the sight of clouds makes us think of rain and look round for our umbrella; or when a present mood maintains and as it were justifies itself by admitting images of a certain kind only,

those of dangers when we are depressed, those of pleasures when we are happy. This is the reason why in our normal states the revived images always show the characters of 'resemblance' and 'contiguity'—a truth which 'the laws of Association' invert in affirming that resemblance and contiguity effect the revival. The fact is that it is only the resembling and contiguous that fit into and illumine the present situation; it is from it and as part of it that they get that vivacity which makes us speak of them as 'revived'. In pathological conditions past experiences crowd back on us in defiance of the laws of Association, apparently because of a relaxation of the ordinary connexion between the afferent and efferent parts of the nervous system; the useless recollection can no longer be kept from intruding.

The doctrine of a physical storage of 'images,' Bergson points out, is largely due to a confusion between the motor or organic memory, which re-acts to stimulus with appropriate bodily movement, and the spontaneous memory, which gives us images out of the past. The former is a bodily habit created by repeated effort to perform a certain act, whether the act is to recite without book a dozen lines of Virgil, to play a difficult musical phrase on a piano, to ride a bicycle. The repetition creates in the nervous system a new mechanism which functions of itself as soon as started. There is a real lodgment in a real material. But the image of a past experience does not recur to us by such effort; for the experience being unique cannot be repeated. It just survives, but unconsciously: what consciously revives it we have just now endeavoured to state. As there are two kinds of memory, so there are two kinds of recognition—motor recognition when, without images from the past, we simply make appropriate use of the object or at least feel it to be familiar; spontaneous or intelligent recognition, where images from the past enter and incorporate themselves with and give their character to the object perceived. Attention is the act that facilitates intelligent recognition. It cannot do so—as both Bergson and Stout urge—by the concentration of some mysterious inner light on the object. On the other hand, neither is it reducible to those physical tensions—usually called the 'fixation of attention'—which we undoubtedly create and experience. It is a mental act which prompts such physical acts or attitudes as will bar the entrance of useless images and facilitate the entrance of useful ones. And thus in full accordance with his general theory Bergson can explain what Stout cannot, how attention is at once physical and spiritual.



On the defects of memory and their organic conditions we have no space to follow Bergson through his learned and acute discussion. The defects, which are of such extraordinary variety that the most recent pathologists have come to despair of conceiving any physical theory for them at all (*Matière*, 132), cannot be explained as those who find in the brain a storehouse of images would fain explain them, *viz.* by the lesion of some special brain-centre. Bain thought, logically enough, that the damaged brain-centre must be the centre that functioned in the original perception (*Matière*, 134); but patients who have lost their visual or auditory images can still see or hear. If to account for this we assume special 'imaginative centres,' the facts force us to assume an ever larger number of these, and an ever-increasing number of connexions between them. But give up with Bergson the theory that the brain is a seat of perceptions or images. If only there is such a lesion in the nervous system that the physical impressions received from without cannot be prolonged into the physical acts that usually complete them, then we can no longer name or use the object present to our senses; motor-memory miscarries. On the other hand, imagine such a lesion that we become incapable of making the physical movements needed, as we have seen, for effective attention, then the images from the past that should incorporate themselves in, and so define, the present object to us fail to return. And this gives an intelligible reason why a particular sort of memory should be weakened without being altogether abolished; why, for instance, the memory for names should vanish not at once but step by step, that for proper names vanishing first, that for common nouns next, that for verbs last, just because the *actions* into which these fit themselves, being the simplest, are the last to become impracticable to the patient (*Matière*, 127). 'The supposed destruction of memories is only the interruption of a continuous process by which memory actualises itself' (*Matière*, 126).

The psychological results of the *Données* and the *Matière* need not be further insisted on. Their metaphysical result is to dethrone at once materialism and idealism, the former by establishing the reality of mind or life, the latter by establishing the reality of matter, of movement, and, in a measure, even of the sensible qualities of matter. But they show that we are not to conceive matter as merely possessing shape, infinitely divisible solidity, a capacity for being translated without change, so that no variation is possible to it except in the form, size, and mutual distances of its parts.

This is the reduction of it effected by our intelligence; this makes it amenable to geometry, this holds before the physicist the illusive dream of a day when it will be possible to construct *a priori* all future states of the universe. But we have learnt the uses and limits of intelligence, and can no longer be misled by it. To us matter is essentially that to which the life-force can give the diversity and intricacy of structure that fit it to be the precise and adequate organ of the life-impulse itself.

What novelty beyond their mere elaboration does the longest and to readers untrained in philosophy the most attractive of Bergson's works—*L'Évolution Créatrice*—add to these ideas? It connects them with the doctrine of the evolution of species. It shows that the facts of this evolution are the strongest confirmation of Bergson's theory of vital change; the strongest refutation of a mechanical or a finalistic theory, even though the latter takes the plausible form of Vitalism, which finds a principle of harmonious self-maintenance in each living body. It shows that these same facts confirm Bergson's theory of intelligence and its restriction to a special sphere, and so establish a real separation, unknown to other systems, between philosophy and science.

That the evolution of species is a fact Bergson takes leave to assume. Some may still think it doubtful whether it proceeds by literal filiation. But the relations of living forms shown by the naturalist's classifications, the facts of embryological change, the chronological succession of forms disclosed by palæontology, show that there is a real passage from less to more evolved forms, whether effected by filiation or otherwise. Can, then, this fact be explained by either a mechanical or a finalistic theory? But first let us make a preliminary remark on theories of these two kinds.

It is obvious that a mechanical theory must deny that genuine creation, that incessant uprising of the new and unpredictable which to Bergson is the essence of the universe. For that theory requires, in the well-known phrases once more cited by Bergson from Laplace, Du Bois Reymond, and Huxley, that a complete knowledge of the world at any one time would involve to a superhuman intelligence a knowledge of it at any later time; it involves the view that 'all is given,' the view—to use W. James's phrase—of 'a block-universe'. But a finalistic theory makes the very same postulate. The superhuman intelligence would see the final shape that the Universe will assume, the tendencies that are making for the creation of that shape. And the common

blot in both theories is their anthropomorphism. Man can only create where he has unchanging things for his materials and respects their unchanging laws; and this same necessity is supposed by both theories to bind nature as well: 'I cannot,' says Lord Kelvin somewhere, 'be satisfied that I have explained any natural process, unless I can construct a working model of it'. The finalistic theory adds that nature further imitates man by having in its creations the idea of some plan which an ingenious utilisation of its unchanging materials will realise. But the characteristic action of man and the psychical process which underlies it, intelligence, is, like the human species itself, the *product* of evolution; how then can it be its *principle*? The fact is that we being familiar with only one kind of creation tend to look for it everywhere; if our assumption is wrong, we are left in darkness. But that is no reason for holding the assumption to be right, and we have just seen that there is the strongest possible reason for holding it to be wrong.

Nor will the detailed facts of evolution fit either into a mechanical or a finalistic theory; neither into Darwinism with its theory of accidental, transmissible variations in the germ, whether small or, as Bateson and De Vries hold, large and multiple; nor into the orthogenesis of Eimer, who holds that external influences adapt the organism to themselves by effecting changes in it always in the same constant direction; nor into the finalistic views whether of the neo-Lamarckians who make evolution the result of effort, or of Reinke and Driesche who affirm the doctrine of Vitalism and, in Leibnizian language, make a 'dominant entelechy' direct each living body to its own preservation. One striking fact brought forward by Bergson tests with fatal effect the soundness of each theory—the formation namely in organisms widely divergent of identical complex organs with an identical function, *e.g.* of the eye in Vertebrates and in a certain Mollusc (Pecten). To suppose with the Darwinians that the accumulation of variations can effect two such results is to suppose, not that two different roads may bring two independent travellers to the same point, but that two independent travellers might follow paths of identical form, though that form were composed of innumerable zigzags. Eimer's theory owes its plausibility to the ambiguity of the word 'adaptation'. The beaker into which water or any fluid is poured determines, no doubt, the form they all take. But if such insertion is to be called 'adaptation,' it is at least wholly different from the adaptation by which a living thing moulds itself to take the greatest advantage from its surroundings.

The adaptation may begin in a purely physical way; it may well be that light created the rudimentary eye, the pigmented spot. But so—to use Bergson's brilliant illustration—the orator begins by adopting the passions of the crowd he addresses, but only that in the end he may direct them, and this end he effects. Will it be said that the perfect eye is not an adaptation created to profit by the light? that it is simply created and has, when created, the power of seeing what light illuminates? But the human eye co-operates with and is adapted to the entire sensori-motor system with the sense-organs and the muscles and bones that are its appendages. It is in conjunction with them that it forms an instrument for useful action in an illuminated world. But who will pretend that all these systems were created by the direct action of light, which Eimer makes the sufficient cause of the eye and its function?

So much for mechanical explanations. The finalistic theory would either make the whole universe harmonious—a thesis few have cared to maintain since Leibniz' optimism was exploded by the ridicule of Voltaire; or if we apply it, as Vitalism applies it, not to the universe as a whole but only to those fragments of it which we call organic beings, the physiology of one such being—say man—is enough to show that there is in them no such absolute internal harmony; even in our body the parts live for themselves and some will antagonise the welfare of the whole or even destroy it.

But is not Bergson's own theory of adaptive self-creation a kind of finalism? has not such creation a purpose? No, if by purpose we mean a fixed end; yes, if by purpose we mean a conscious tendency. We must assume an original Life-Force or tendency, holding in equilibrium many tendencies, which presently, as they grow, split off and are dissociated. The child fascinates us by the many possibilities we see in him; as he grows up, one set alone realises itself and the rest are abandoned. But the Life-Force need abandon nothing; it need not evolve in a single eternal individual, nor even in a single series of individuals; it can give rise to many series ever diverging. Yet as all had a single source, even the strongest resemblances between members of different series need not surprise us; Pecten and Homo may have the same function of vision. But how did they come by the same apparatus? Bergson's answer is that the real creation of the Life-Force is the function, not the apparatus. It is our anthropomorphic bias that insists on treating the function as a consequence of the apparatus. Suppose we thrust our hand and arm into a mass of iron filings; when the action

is completed, the filings have assumed a certain form ; but has that form any resemblance to our act ? When we take the structure of the eye as accounting for its function, are we not acting precisely as one might who analysed and geometrised the complex form assumed by the filings and hoped in the end thus to account for it with no thought of the act which really created it ?

That life, then, should develop along different lines, is what the view of Bergson would lead us to expect. Common-sense declares that there are such different lines. Does science contradict it ? does science agree with Aristotle that the animal life contains the vegetable, the human the animal ? Evolutionary science answers emphatically, No. Doubtless the vegetative tendency may be found in animals and man ; doubtless instinctive function, so marvellously developed in bees, is found in man. And if the Life-Force is one, if all life started in formless protoplasm, there is nothing to surprise us in such admixture of tendencies. But look at the prevailing tendency in each realm, the tendency that is found to accentuate itself with evolutionary progress in that realm. The vegetable is stationary, ever nourishing itself on the circumambient air from which by its chlorophyllian function it extracts the carbon it needs, storing energy continuously, giving it out continuously. The animal feeds ultimately on the plant, stores its energy and gives out its energy discontinuously, acts and moves—though in general instinctively, in a way fixed by its organization. Man too stores and gives out energy discontinuously, acts and moves, but with conscious intelligence. True, there are plants that move, climb, catch insects and eat them ; but this is not the line along which plant-evolution proceeds ; it is not the more but the less evolved, or the starved or degenerate, plants that thus act. At the other end of the scale we find in man a tendency to vegetate ; but this is not the line of his evolution ; it marks a residuum from the life-principle, which the more active of the species have cast away. Instinct again we find in the vertebrates and even in man. But the evolutionary line, in which it is the dominant principle, is that which culminates in the hymenoptera, bees, ants, wasps. In them it is that we see almost pure the nature of instinct. Embedded in the structure of their bodies, it provides them with an adaptation to the conditions of their lives more perfect than the finest intelligence could create ; it endows these minute insects with a knowledge and adroitness such as one who was at once a learned entomologist and a skilled surgeon could scarcely rival. But it is strictly limited to special

things and special aspects of them, like the infant's knowledge of the nurse's breast and its power to suck. It is bound up with the physical organization. In fact between the instinct that uses the organization and the process that creates it we find it impossible to draw the line.

Instinct and intelligence supply, says Bergson, 'equally elegant solutions of the same problem'. But they are profoundly different; instinct is not 'lapsed intelligence,' nor intelligence a complex of instincts. Intelligence aims at fabrication; it needs for its material the unchanging, the reproducible at all times and places; ultimately, it deals not with special *things* but with special *relations*. Tentatively exploring it finds the material suited to it; this material is the non-living. Instinct does not fabricate, it uses; or if it constructs, its work is not one in which each part finds itself co-operating with other parts naturally indifferent to it, but an organic whole. It knows by a sort of 'sympathy' the things it deals with; but it knows nothing *about* them, from which it could infer their behaviour in other relations. Therefore instinct knows, or at least can handle, the living. Man can only do so, so far as he possesses a similar instinct; the more he applies in this field the dissecting and reconstructing method of his intelligence, the more completely he fails. In these days when we find good and formative teachers as rare as ever, but 'text-books of Pædago<sup>y</sup>' thick as leaves in Vallombrosa, and teachers of Pædago<sup>y</sup>—who have either never taught or failed as teachers—more numerous still, it is well to call attention to the strong words of Bergson (*E.C.*, 179): 'the intelligence, so adroit at managing the inert, shows its clumsiness as soon as it touches the living. The history of Hygiene and Pedagogy could say much on this point. When one reflects on the urgent and capital interest we have in the preservation of our bodies and the elevation of our souls, on the special facilities granted to each of us for incessant experiment, and the palpable loss which is the price of insufficiency in our medical and pedagogical practice, one remains astounded at the grossness and persistence of their blunders.'

The intelligence in fact is nowhere fully at home except with the homogeneous, the unchanging, the merely quantitative. In Geometry, in the Theory of Numbers, it can make endless discoveries, but of identities only, never of causes and effects. That one thing should change into another, that one thing should cause another, is to the understanding an absurdity. It cannot fully grasp even inanimate nature; and when it seeks in what we call 'Inductive Logic'—though

so far as it is not a pure Methodology it is simply bad Metaphysics—to give an intelligible idea of causation, it simply flounders or contradicts itself. In dealing with life it is still more at fault, for life is an eternal creation of novelties. Bergson has noticed this in the preface to his *Évolution*: ‘one would be much puzzled,’ says he, ‘to cite a single biological discovery due to pure reasoning; and in general when experience has ended by showing us how life proceeds to obtain a certain result, we find that its manner of operating is precisely one of which we should never have thought’. Those who so glibly vouch ‘a philosophy of history’ would probably be less confident if they knew more of the details of history.

A most interesting part of *Évolution Créatrice* is the comparison of ancient and modern science and philosophy. The founders of Greek science did their best to ignore change; the reality to them consisted in immutable Forms, a degradation of which occurred in the perceived world by an admixture with an indefinable somewhat, which Plato called ‘the Nothing’ and Aristotle ‘Matter’. And as multiplicity was as inexplicable as mutability, the Forms themselves were regarded as logical emanations from one highest Form. Space and time were not realities at all. The various Forms were the subject-matter of the sciences, the unity of those Forms of philosophy. The value of such science may be seen from the Aristotelian physics with its assumption of the two great Forms of ‘gravity’ and ‘levity,’ a physics as arbitrary as it is vague and incapable of development. The fruitful modern physics that begins with Galileo dreamt of no such essential forms. Instead of conceiving that ‘heavy’ bodies had a nature that was realised when they reached the earth (cf. the quotation from *de Caelo*, 310 a, 34 in *E.C.*, 248 n.), and ‘light’ bodies the contrary, the new science gave no prerogative position to the terminus of the movement as though it were a sort of immanent purpose, but set itself to determine the movement by determining the place of the body at *any* moment of time, which—as we have seen—means determining the correspondences between its place and those of a body moving uniformly. Galilean science could no more ‘explain’ the movement than Aristotelian; but it saw what could be ascertained and what it was alone of value to ascertain. But then, as Bergson points out, the moderns, while throwing over the ancient science, virtually retained under ever-increasing difficulties the ancient metaphysics, and this from no accidental cause, but because that metaphysics is just the natural metaphysics of the intelligence. For the character-



istic function and action of the human species demand self-identical, persistent objects with constant mutual relations; human language can express nothing else. That modern science, while recognising movement as the very nature of things, should in its calculations ignore the movement itself, content to seize the line along which it travels and to define positions in it, has nothing surprising in it. Only so could movement become a subject for quantitative determination, for science, in fact, at all. But that men familiar with a science that implied the reality of movement should yet construct world-systems independent of it—as Spinoza and Leibniz, and later Fichte and Hegel did—is truly surprising, till we recollect the bias given by the nature of intelligence. But to intelligence we must add intuition, what instinct might be if it could widen, and become conscious of, itself. Such an intuition we have in our own conscious life, where we not merely enact a genuinely creative process, but see, or at least feel, it. And the business of philosophy is just to press this element of intuition, both because of its superior importance and because it is just what Science does not use and cannot even recognise. Intuition is the vital element in every philosopher, not the dialectic of the intelligence by which he tests it or the system of concepts in which he seeks to embody and communicate it. Nay, ‘the very effort,’ says Bergson (*E.C.*, 259), ‘by which we connect ideas with ideas makes the intuition vanish which the ideas proposed permanently to store for us’. We are reminded of Arnold’s view of ‘the Progress of Poesy’ :—

The man mature with labour chops  
For the bright stream a channel grand,  
And sees not that the sacred drops  
Are lost and vanished out of hand.

On the other hand, a philosophy which accepts all that science would give it and asks for no more than to be allowed to systematise it and lay down its principles will find nothing left for it; with the facts of science it accepts the principles of science and a metaphysic, escape from which it has deliberately barred.

Intelligence, says Bergson in a happy illustration, gives us such a view of life as the cinematograph. There we seem to have the movement of life itself; but what we really have is a very large number of instantaneous views, each stationary; the apparent movement is not their movement but only that of the screen on which they are thrown. Such is our science; the ‘views’ it gives of the unending process of

nature may be made indefinitely numerous; of the movement we have not—as for practical purposes we do not need to have—any idea. Our knowledge is external, superficial; but it is practical, it is what we need for action, it succeeds.

The 'general law' of the logical text-books is a fusion—by 'endosmose,' as Bergson would say—of the 'law' of modern science and the 'genus' (Form, Species) of Aristotelian. The two ideas are quite different, though the modern logician—even, we think, so recent and acute a writer as Dr. Mellone—often tries to persuade himself that modern science no less than Aristotelian is a research for 'Real Kinds'. But 'real kinds' imply a negation of the reality of movement; *they* are the one reality, permanent things that maintain themselves generation after generation. Modern science takes movement and change for the ultimate fact and seeks to discover the laws of its stages, that is the correspondences among those stages; it gives relations; in its most perfect form it gives quantitative relations. Such a relation is 'general' in our sense, but it is not a genus, a thing, at all. It crosses and confuses all that Aristotle would have thought the most palpable distinctions of genera; it applies as much to the semi-divine heavenly body as to the lifeless stone.

If evolution is really creative, the famous theory of Herbert Spencer is no better than a mare's nest (*E.C.*, 392-398). It recognises no 'making'; it deals only with the made. It builds up the world by the composition and separation of solid particles; it explains instinct and reasonable will by a composition of 'reflexes'; it makes the principles of intelligence the imprint effected on us by the 'phenomena' of the external world. But how do we come by solid particles, by distinct phenomena? they are just the creation, or rather the external reflexion, of intelligence in the continuous flux. When intelligence is not, they are not. And this distinguishing intelligence, and instinct, and the 'reflexes' are themselves the creation of the life-force, that in its effort to express and manifest itself agitates brute matter, and gives rise to the continuous flux. *Vita agitat molem*. 'Reflexes' are not original, instinct is not original, intelligence is not original. Is the creation of a city explained by pointing to the collocation of houses? The creation of the city is also the creation of the houses with the streets that separate them, whose outlines they define. A picture is really made—says Bergson—as it grows under the hand and mind of the artist; if the same picture is glued to cardboard and cut into squares, a child may put them together; but he is *making* the

picture. Just such a sham making inconceivable except as preceded by a real making, is what Spencer presents as the evolution of the world and man.

Bergson's metaphysics involve, as he expressly points out, the two ideas of growth and decay, of a rise and a descent. The working of the life-force is a process of creation, but the law of matter is dissipation of energy, waste, loss. Are we then to conceive two independent, antagonising principles, as opposite as the tendency of matter to fall to the earth and there remain inert and of the energy which raises it? Bergson suggests that the seeming opposition, the seeming inverse relation of the two processes to one another, is really due to the *interruption* of the one process of creation. If the one is called tension, the other will be relaxation, or, as the French more neatly puts it, '*détente*'. From the one comes complexity, interpenetration, the abolition of space, which is the *schema* of separateness; from its interruption comes separation and the re-creation of spatiality. Therefore in the conscious life, which is ever creative, space and spatial relations are unmeaning, and the attempt to understand it as due to the 'attraction' of separate elements (in Hume's phrase) must be a hopeless failure. But, as we have so often said, the peculiarly human practical work of intelligence can only be effected, if at all, by a separation of elements in the continuum. It is actually effected, and we must therefore hold such separation to be in a measure real. Possibly then it is real just where the work of the life-force stops or is broken off. If we could see that life-force operating throughout the universe, as perhaps ultimately it does, our intelligence would be blasted in such vision; the human species, supporting itself in existence by intelligent action, would be annihilated or give place to some higher form.

We are tempted to close our survey of Bergson's philosophy by asking how it solves, if it can solve, a problem which is a testing stone to all evolutionary theories, and in which Bergson himself obviously feels a deep interest—whence comes the immeasurable superiority of Man over his brother vertebrates? Allow him to have advanced farther on the road of intelligence than they, to depend far less on instinct, even—as Bergson somewhere says—to have definitely given instinct its *congé*, how are we to account for his enormous superiority, for the seeming infiniteness of his possibilities? His body is a system of machinery developed on the same lines as that of the other vertebrates and not to an external view widely differing from theirs. His freedom they share. If he can generalise, so also—as far as practice is concerned—can they,

and often with great intelligence. We see of course in him three great possessions which immensely reinforce his intelligence—his instruments, which embody actions, while the animal's only instrument is his own body and the motor mechanisms he gradually creates in his nervous system; his language, which is itself an instrument, and the most valuable kind of instrument, that which recalls and gives us the command of ideas, so that the Nominalist is not altogether wrong when he identifies ideas with words, more right in fact than the grosser kind of Conceptualist who identifies them with images; his social co-operation, a co-operation not unknown to the animals, but raised in man to an altogether higher power by his possession of instruments and language, which can be shared as nothing belonging to the animal can. But still all these seem accidents, if fortunate accidents, not enough to raise mankind into a species so transcendently different. Perhaps Bergson has hit the mark when he suggests that the animal with all his intelligence is yet and remains 'the captive of his own body'. He can only raise himself above automatism by falling into a new automatism altogether. By a well-known incident in the history of inventions Bergson illustrates his point with his usual felicity. We have all heard of the first crude steam-engine that required the constant attention of a boy to open and shut the valves for the admission to the cylinder of the cold water or steam; and how one day a truant of genius bethought himself of tying the handles of the valves to the beam of the steam-engine; henceforth the engine worked itself; and the boy was left free to employ himself as he pleased. So the progress of man has taken place through the creation of an external machinery which relieves him from the animal's limitation of choice, a mere choice of slaveries. The animal can only make of himself a new machine; the man ceases to be a machine at all.