Matter and Memory by Henri Bergson. (1896)

translated by Nancy Margaret Paul and W. Scott Palmer. London: George Allen and Unwin (1911): ix.

Translators' Note

THIS translation of Monsieur Bergson's Matière d Mémoire has been made from the fifth edition of 1908, and has had the great advantage of being revised in proof by the author. Monsieur Bergson has also written a new Introduction for it, which supersedes that which accompanied the original work.

The translators offer their sincere thanks to the author for his invaluable help in these matters and for many suggestions made by him while the book was in manuscript.

They beg leave to call the reader's attention to the fact that all the marginal notes are peculiar to the English edition; and that, although Monsieur Bergson has been good enough to revise them, he is not responsible for their insertion or character, since they form no part of his own plan for the book.

N. M. P. W. S. P

Chapter 3: Of the Survival of Images. Memory and Mind

To sum up briefly the preceding chapters. We have distinguished three processes, pure memory, memory-image, and perception, of which no one, in fact, occurs apart from the others. Perception is never a mere contact of the

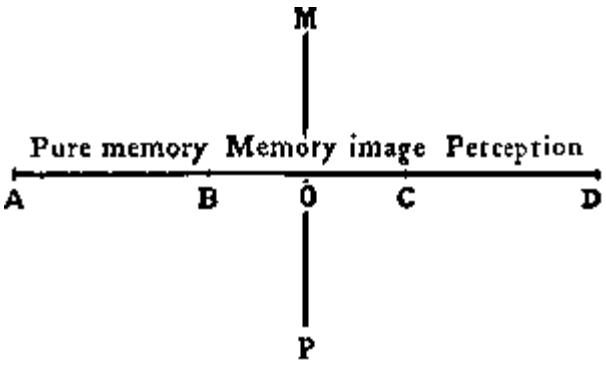

FIG. 2.

mind with the object present; it is impregnated with memory-images which complete it as they interpret it. The memory-image, in its turn, partakes of the 'pure memory,' which it begins to materialize, and of the perception in which it tends to embody itself: regarded from the latter point of view, it might be defined as a nascent perception. Lastly, pure memory, though independent in theory, manifests itself as a rule only in the coloured and living image which reveals it. Symbolizing these three terms by the consecutive segments AB, BC, CD, of the same straight line (pg 170) AD, we may say that our thought describes this line in a single movement which goes from A to D, and that it is impossible to say precisely where one of the terms ends and another begins.

In fact, this is just what consciousness bears witness to whenever, in order to analyse memory, it follows the movement of memory at work. Whenever we are trying to recover a recollection, to call up some period of our history, we become conscious of an act sui *genesis* by which we detach ourselves from the present in order to replace ourselves, first in the past in general, then in a certain region of the past - a work of adjustment, something like the focussing of a camera. But our recollection still remains virtual; we simply prepare ourselves to receive it by adopting the appropriate attitude. Little by little it comes into view like a condensing cloud; from the virtual state it passes into the actual; and as its outlines become more distinct and its surface takes on colour, it tends to imitate perception. But it remains attached to the past by its deepest roots, and if, when once realized, it did not retain something of its original virtuality, if, being a present state, it were not also something which stands out distinct from the present, we should never know it for a memory.

[Margin note: Associationism substitutes solid elements laid side by side for the fluid moving reality, and makes of memory only a weakened perception]

The capital error of associationism is that it substitutes for this continuity of becoming, which is the living reality, a discontinuous multiplicity of elements, inert and juxtaposed. Just because (pg 172) each of the elements so constituted contains, by reason of its origin, something of what precedes and also of what follows, it must take to our eyes the form of a mixed and, so to speak, impure state. But the principle of associationism requires that each psychical state should be a kind of atom, a simple element. Hence the necessity for sacrificing, in each of the phases we have distinguished, the unstable to the stable, that is to say, the beginning to the end. If we are dealing with perception, we are asked to see in it nothing but the agglomerated sensations which colour it, and to overlook the remembered images which form its dim nucleus. If it is the remembered image that we are considering, we are bidden to take it already made, realized in a weak perception, and to shut our eyes to the pure memory which this image has progressively developed. In the rivalry which associationism thus sets up between the stable and the unstable, perception is bound to expel the memory-image, and the memory-image to expel pure memory. And thus the pure memory disappears altogether. Associationism, cutting in two by a line MO the totality of the progress AD, sees, in the part OD, only the sensations which terminate it and which have been supposed to constitute the whole of perception; - and, on the other hand it reduces also the part An to the realized image which pure memory attains to as it expands. Psychical life, then, is en- (pg 173) -tirely summed up in these two elements, sensation and image. And as, on the one hand, this theory drowns in the image the pure memory which makes the image into an original state, and, on the other hand, brings the image yet closer to perception by putting into perception, in advance, something of the image itself, it ends by finding between these two states only a difference of degree, or of intensity. Hence the distinction between *strong states* and *weak states,* of which the first are supposed to be set up by us as perceptions of the present, and the second (why, no man knows) as representations of the past. But the truth is that we shall never reach the past unless we frankly place ourselves within it. Essentially virtual, it cannot be known as something past unless we follow and adopt the movement by which it expands into a present image, thus emerging

from obscurity into the light of day. In vain do we seek its trace in anything actual and already realized: we might as well look for darkness beneath the light. This is, in fact, the error of associationism: placed in the actual, it exhausts itself in vain attempts to discover in a realized and present state the mark of its past origin, to distinguish memory from perception, and to erect into a difference in kind that which it condemned in advance to be but a difference of magnitude.

To picture is not to *remember*. No doubt a recollection, as it becomes actual, tends to live in (pg 174) an image; but the converse is not true, and the image, pure and simple, will not be referred to the past unless, indeed, it was in the past that I sought it, thus following the continuous progress which brought it from darkness into light. This is what psychologists too often forget when they conclude, from the fact that a remembered sensation becomes more actual the more we dwell upon it, that the memory of the sensation is the sensation itself beginning to be. The fact which they allege is undoubtedly true: the more I strive to recall a past pain, the nearer I come to feeling it in reality. But this is easy to understand, since the progress of a memory precisely consists, as we have said, in its becoming materialized. The question is was the memory of a pain, when it began, really pain? Because the hypnotized subject ends by feeling hot when he is repeatedly told that he is hot, it does not follow that the words of the suggestion were themselves hot. Neither must we conclude that, because the memory of a sensation prolongs itself into that very sensation, the memory was a nascent sensation: perhaps indeed this memory plays, with regard to the sensation which follows it, precisely the part of the hypnotizer who makes the suggestion. The argument we are criticizing, presented in this form, is then already of no value as proof; but still, it is not yet a vicious argument, because it profits by the incontestable truth that memory passes into something else by becoming actual. The absurdity becomes patent (pg 175) when the argument is inverted (although this ought to be legitimate on the hypothesis adopted), that is to say, when the intensity of the sensation is decreased instead of the intensity of pure memory being increased. For then, if the two states differ merely in degree, there should be a given moment at which the sensation changed into a memory. If the memory of an acute pain, for instance, is but a slight pain, inversely an intense pain which I feel will end, as it grows less, by being an acute pain remembered. Now the moment will come, undoubtedly, when it is impossible for me to say whether what I feel is a slight sensation which I experience or a slight sensation which I imagine (and this is natural, because the memory-image is already partly sensation); but never will this weak state appear to me to be the memory of a strong state. Memory, then, is something quite different.

[Margin note: But memory is radically different from perception. The past is powerless; the present is sensori-motor, and therefore active.]
But the illusion which consists in establishing only a difference of degree between memory and perception is more than a mere consequence of associationism, more than an accident in the history of philosophy. Its roots lie deep. It rests, in the last analysis, on a false idea of the nature and of the object of external perception. We are bent on regarding perception as only an instruction addressed to a pure spirit, as having a purely speculative interest. Then, as memory is itself essentially a knowledge of this kind, since its object is no longer present, we can only find between (pg 176) perception and memory a difference of degree - perceptions being then supposed to throw memories back into the past, and thus to reserve to themselves the present simply because right is might. But there is much more between past and present than a mere difference of degree. My present is that which interests me, which lives for me, and, in a word, that which summons me to action; whereas my past is essentially powerless. We must dwell further on this point. By contrasting it with present perception we shall better understand the nature of what we call 'pure memory.'

For we should endeavour in vain to characterize the memory of a past state unless we began by defining the concrete note, accepted by consciousness, of present reality. What is, for me, the present moment? The essence of time is that it goes by; time already gone by is the past, and we call the present the instant in which it goes by. But there can be no question here of a mathematical instant. No doubt there is an ideal present - a pure conception, the indivisible limit which separates past from future. But the real, concrete, live present - that of which - I speak when I speak of my present perception - that present necessarily occupies a duration. Where then is this duration placed?

Is it oil the hither or on the further side of the mathematical point which I determine ideally when I think of the (pg 177) present instant? Quite evidently, it is both on this side and on that; and what I call ‘my present' has one foot in my past and another in my future. In my past, first, because ‘the moment in which I am speaking is already far from me'; in my future, next, because this moment is impending over the future: it is to the future that I am tending, and could I fix this indivisible present, this infinitesimal element of the curve of time, it is the direction of the future that it would indicate. The psychical state, then, that I call ‘my present,' must be both a perception of the immediate past and a determination of the immediate future. Now the immediate past, in so far as it is perceived, is, as we shall see, sensation, since every sensation translates a very long succession of elementary vibrations; and the immediate future, in so far as it is being determined, is action or movement. My present, then, is both sensation and movement; and, since my present forms an undivided whole, then the movement must be linked with the sensation, must prolong it in action. Whence I conclude that my present consists in a joint system of sensations and movements. My present is, in its essence, sensori-motor.

[Margin note: Our present is the materiality of our life; it is unique for each moment of duration]
This is to say that my present consists in the consciousness that I have of my body. Having extension in space, my body experiences sensations and at the same time executes movements.

(pg 178) Sensations and movements being localized at determined points of this extended body, there can only be, at a given moment, a single system of movements and sensations. That is why my present appears to me to be a thing absolutely determined, and contrasting with my past. Situated between the matter which influences it and that on which it has influence, my body is a centre of action, the place where the impressions received choose intelligently the path they will follow to transform themselves into movements accomplished. Thus it indeed represents the actual state of my becoming, that part of my duration which is in process of growth. More generally, in that continuity of becoming which is reality itself, the present moment is constituted by the quasiinstantaneous section effected by our perception in the flowing mass; and this section is precisely that which we call the material world. Our body occupies its centre; it is, in this material world, that part of which we directly feel the flux; in its actual state the actuality of our present lies. If matter, so far as extended in space, is to be defined (as we believe it must) as a present which is always beginning again, inversely, our present is the very materiality of our existence, that is to say, a system of sensations and movements, and nothing else. And this system is determined, unique for each moment of duration, just because sensations and movements occupy space, and because there cannot be in the same place several things (pg 179) at the same time. - Whence comes it that it has been possible to misunderstand so simple, so evident a truth, one which is, moreover, the very idea of common sense?

[Margin note: But pure memory, in which each unique moment of the past survives, is essentially detached from life]
The reason lies simply in the fact that philosophers insist on regarding the difference between actual sensations and pure memory as a mere difference in degree, and not in kind. In our view the difference is radical. My actual sensations occupy definite portions of the surface of my body; pure memory, on the other hand, interests no part of my body. No doubt, it will beget sensations as it materializes; but at that very moment it will cease to be a memory and pass into the state of a present thing, something actually lived; and I shall only restore to it its character of memory by carrying myself back to the process by which I called it up, as it was virtual, from the depths of my past. It is just because I made it active that it has become actual, that is to say, a sensation capable of provoking movements. But most psychologists see in pure memory only a weakened perception, an assembly of nascent sensations. Having thus effaced, to begin with, all difference in kind between sensation and memory, they are led by the logic of their hypothesis to materialize memory and to idealize sensation. They perceive memory only in the form of an image; that is to say, already embodied in nascent sensations. Having thus attributed to it that which is essential to sensa- (pg 180) -tion, and refusing to see in the ideality of memory something distinct, something contrasted with sensation itself, they are forced, when they come back to pure sensation, to leave to it that ideality with which they have thus implicitly endowed nascent sensations. For if the past, which by hypothesis is no longer active, can subsist in the form of a weak sensation, there must be sensations that are powerless. If pure memory,

which by hypothesis interests no definite part of the body, is a nascent sensation, then sensation is not essentially localized in any point of the body. Hence the illusion that consists in regarding sensation as an ethereal and unextended state which acquires extension and consolidates in the body by mere accident: an illusion which vitiates profoundly, as we have seen, the theory of external perception, and raises a great number of the questions at issue between the various metaphysics of matter. We must make up our minds to it: sensation is, in its essence, extended and localized; it is a source of movement; - pure memory, being inextensive and powerless, does not in any degree share the nature of sensation.

[Margin note: Memory when actualized in an image, borrows something from perception]
That which I call my present is my attitude with regard to the immediate future; it is my impending action. My present is, then, sensori-motor. Of my past, that alone becomes image and consequently sensation, at least nascent, which can collaborate in that action, insert itself in (pg 181) that attitude, in a word make itself useful; but, from the moment that it becomes image, the past leaves the state of pure memory and coincides with a certain part of my present. Memory actualized in an image differs, then, profoundly from pure memory. The image is a present state, and its sole share in the past is the memory whence it arose. Memory, on the contrary, powerless as long as it remains without utility, is pure from all admixture of sensation, is without attachment to the present, and is consequently unextended.

[Margin note: Consciousness is the note of the present; therefore pure memory is latent and unconscious]
This radical powerlessness of pure memory is just what will enable us to understand how it is preserved in a latent state. Without as yet going to the heart of the matter, we will confine ourselves to the remark that our unwillingness to conceive *unconscious psychical states* is due, above all, to the fact that we hold consciousness to be the essential property of psychical states so that a psychical state cannot, it seems, cease to be conscious without ceasing to exist. But if consciousness is but the characteristic note of the *present,* that is to say of the actually lived, in short of the *active,* then that which does not act may cease to belong to consciousness without therefore ceasing to exist in some manner. In other words, in the psychological domain, consciousness may not be the synonym of existence, but only of real action or of immediate efficacy; and, limiting thus the meaning of the term, we (pg 182) shall have less difficulty in representing to ourselves a psychical state which is unconscious, that is to say, ineffective. Whatever idea we may frame of consciousness in itself, such as it would be if it could work untrammelled, we cannot deny that, in a being which has bodily functions, the chief office of consciousness is to preside over action and to enlighten choice. Therefore it throws light on the immediate antecedents of the decision, and on those past recollections which can usefully combine with it; all else remains in shadow. But we find here once more, in a new form, the ever-recurrent illusion which, throughout this work, we have endeavoured to dispel. It is supposed that consciousness, even when linked with bodily functions, is a faculty that is only accidentally practical, and is directed essentially towards speculation. Then, since we cannot see what interest, devoted as it is supposed to be to pure knowledge, it would have in allowing any information that it possesses to escape, we fail to understand why it refuses to throw light on something that was not entirely lost to it. Whence we conclude that it can possess nothing more *de jure* than what it holds *de facto,* and that, in the domain of consciousness, all that is real is actual. But restore to consciousness its true rôle: there will no longer be any more reason to say that the past effaces itself as soon as perceived, than there is to suppose that material objects cease to exist when we cease to perceive them.

(pg 183) [Margin note: Of unconscious mental states in general. Artificial difficulty raised round the problem of the unconscious]
We must insist on this last point, for here we have the central difficulty, and the source of the ambiguities which surround the problem of the unconscious. The idea of an *unconscious representation is* clear, despite current prejudice; we may even say that we make constant use of it, and that there is no conception more familiar to common sense. For every one admits that the images actually present to our perception are not the whole of matter. But, on the other hand, what can be a non-perceived material object, an image not imagined, unless it is a kind of unconscious mental state? Beyond the walls of your room, which you perceive at this moment, there are the adjoining rooms, then the rest of the house, finally the street and the town in which you live. It signifies little to which theory of matter you adhere; realist or idealist, you are evidently thinking, when you speak of the town, of

the street, of the other rooms in the house, of so many perceptions absent from your consciousness and yet given outside of it. They are not created as your consciousness receives them; they existed, then, in some sort; and since, by hypothesis, your consciousness did not apprehend them, how could they exist in themselves unless in the unconscious state? How comes it then that an existence outside of *consciousness* appears clear to us in the case of objects, but obscure when we are speaking of the subject? Our perceptions, (pg 184) actual and virtual, extend along two lines, the one horizontal, AB, which contains all simultaneous objects in space, the other vertical, CI, on which are ranged our successive recollections set out in time. The point I, at the intersection of the two lines, is the only one actually given to consciousness. Whence comes it that we do not hesitate to posit the reality of the whole line AB, although it remains unperceived, while, on the contrary, of the line CI, the present I which is actually perceived is the only point which appears to us really to exist? There are, at the bottom of this radical distinction between the two series, temporal and spatial, so many confused or half-formed ideas, so many hypotheses devoid of any speculative value, that we cannot all at once make an exhaustive analysis of them. In order to unmask the illusion entirely, we should have to seek at its origin, and follow through all its windings, the double movement by which we come to assume objective realities without relation - to consciousness, and states of consciousness without objective reality, - space thus appearing to preserve indefinitely the *things* which are there juxtaposed, while tune in its advance devours the *states* which succeed each other within it. Part of this work has been done in our first chapter, (pg 185) where we discussed objectivity in general; another part will be dealt with in the last pages of this book, where we shall speak of the idea of matter. We confine ourselves here to a few essential points.

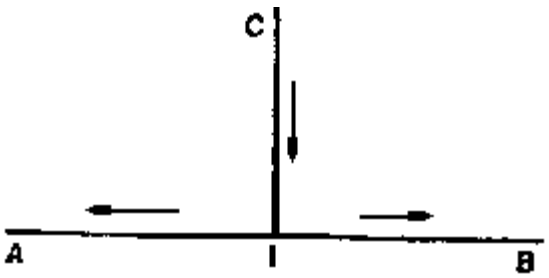

FIG. 3.

First, the objects ranged along the line AB represent to our eyes what we are going to perceive, while the line CI contains only that which has already been perceived. Now the past has no longer any interest for us; it has exhausted its possible action, or will only recover an influence by borrowing the vitality of the present perception. The immediate future, on the contrary, consists in an impending action, in an energy not yet spent. The unperceived part of the material universe, big with promises and threats, has then for us a reality which the actually unperceived periods of our past existence cannot and should not possess. But this distinction, which is entirely relative to practical utility and to the material needs of life, takes in our minds the more and more marked form of a metaphysical distinction.

[Margin note: Why the idea of an existence that is real though not perceived appears to be clear in the case of an unperceived object, obscure in the case of an unperceived idea]

We have shown that the objects which surround us represent, in varying degrees, an action which we can accomplish upon things, or which we must experience from them. The date of fulfilment of this possible action is indicated by the greater or less remoteness of the corresponding object, so that distance in space measures the proximity of a threat or of (pg 186) a promise in time. Thus space furnishes us at once with the diagram of our near future, and, as this future must recede indefinitely, space which symbolizes it has for its property to remain, in its immobility, indefinitely open. Hence the immediate horizon given to our perception appears to us to be necessarily surrounded by a wider circle, existing though unperceived, this circle itself implying yet another outside it and so on, *ad infinitum.* It is, then, of the essence of our actual perception, inasmuch as it is extended, to be always only a *content* in relation to a vaster, even an unlimited, experience which contains it; and this experience, absent from our consciousness, since it spreads beyond the perceived horizon, nevertheless appears to be actually given. But while we feel ourselves to be dependent upon these material objects which we thus erect into present realities, our memories, on the contrary, inasmuch as they are past, are so much dead weight that we carry with us, and by which we prefer to imagine ourselves unencumbered. The same instinct, in virtue of which we open out space indefinitely before us, prompts us to shut off time behind us as it flows. And while reality, in so far as it is extended, appears to us to overpass infinitely the bounds of our perception, in our inner life that alone seems to us to be *real* which

begins with the present moment; the rest is practically abolished. Then, when a memory reappears in consciousness, it produces on us the (pg 187) effect of a ghost whose mysterious apparition must be explained by special causes. In truth, the adherence of this memory to our present condition is exactly comparable to the adherence of unperceived objects to those objects which we perceive; and *the unconscious* plays in each case a similar part.

But we have great difficulty in representing the matter to ourselves in this way, because we have fallen into the habit of emphasizing the differences and, on the contrary, of slurring over the resemblances, between the series of *objects* simultaneously set out in space and that of *states* successively developed in time. In the first, the terms condition each other in a manner which is entirely determined, so that the appearance of each new term may be foreseen. Thus I know, when I leave my room, what other rooms I shall go through. On the contrary, my memories present themselves in an order which is apparently capricious. The order of the representations is then necessary in the one case, contingent in the other; and it is this necessity which I hypostatize, as it were, when I speak of the existence of objects outside of all consciousness. If I see no inconvenience in supposing given the totality of objects which I do not perceive, it is because the strictly determined order of these objects lends to them the appearance of a chain, of which my present perception is only one link. This link communicates its actuality (pg 188) to the rest of the chain. - But, if we look at the matter nearly, we shall see that our memories form a chain of the same kind, and that our character, always present in all our decisions, is indeed the actual synthesis of all our past states. In this epitomized form our previous psychical life exists for us even more than the external world, of which we never perceive more than a very small part, whereas on the contrary we use the whole of our lived experience. It is true, that we possess merely a digest of it, and that our former perceptions, considered as distinct individualities, seem to us to have completely disappeared, or to appear again only at the bidding of their caprice. But this semblance of complete destruction or of capricious revival is due merely to the fact that actual consciousness accepts at each moment the useful, and rejects in the same breath the superfluous. Ever bent upon action, it can only materialize those of our former perceptions which can ally themselves with the present perception to take a share in the final decision. If it is necessary, when I would manifest my will at a given point of space, that my consciousness should go successively through those intermediaries or those obstacles of which the sum constitutes what we call *distance in space,* soon the other hand it is useful, in order to throw light on this action, that my consciousness should jump the interval of time which separates the actual situation from a former one which resembles it; and as consciousness goes (pg 189) back to the earlier date at a bound, all the intermediate past escapes its hold. The same reasons, then, which bring about that our perceptions range themselves in strict continuity in space, cause our memories to be illumined discontinuously in time. We have not, in regard to objects unperceived in space and unconscious memories in time, to do with two radically different forms of existence; but the exigencies of action are the inverse in the one case of what they are in the other.

[Margin note: Existence implies both conscious apprehension and regular connexion; but there may be different degrees of either]
But here we come to the capital problem of *existence,* a problem we can only glance at, for otherwise it would lead us step by step into the heart of metaphysics. We will merely say that with regard to matters of experience - which alone concern us here - existence appears to imply two conditions taken together: (r) presentation in consciousness; and (a) the logical or causal connexion of that which is so presented with what precedes and with what follows. The reality for us of a psychical state or of a material object consists in the double fact that our consciousness perceives them and that they form part of a series, temporal or spatial, of which the elements determine each other. But these two conditions admit of degrees, and it is conceivable that, though both are necessary, they maybe unequally fulfilled. Thus, in the case of actual internal states, the connexion is less close, and the determination of the present by the past, leav- (pg 190) [Margin note: The fallacy consists in distinguishing two kinds of existence characterized the one by conscious apprehension and the other by regular connexion] ing ample room for contingency, has not the character of a mathematical derivation; - but then, presentation in consciousness is perfect, an actual psychical state yielding the whole of its content in the act itself whereby we perceive it. On the contrary, if we are dealing with external objects it is the connexion which is perfect, since these objects obey necessary laws; but then the other condition, presentation in consciousness, is

never more than partially fulfilled, for the material object, just because of the multitude of unperceived elements by which it is linked with all other objects, appears to enfold within itself and to hide behind it infinitely more than it allows to be seen. - We ought to say, then, that existence, in the empirical sense of the word, always implies conscious apprehension and regular connexion; both at the same time but in different degrees. But our intellect, of which the function is to establish clear-cut distinctions, does not so understand things. Rather than admit the presence in all cases of the two elements mingled in varying proportions, it prefers to dissociate them, and thus attribute to external objects on the one hand, and to internal states on the other, two radically different modes of existence each characterized by the exclusive presence of the condition which should be regarded as merely preponderating. Then the existence of psychical states is assumed to consist entirely in (pg 191) their apprehension by consciousness, and that of external phenomena, entirely also, in the strict order of their concomitance and their succession. Whence the impossibility of leaving to material objects, existing, but unperceived, the smallest share in consciousness, and to internal unconscious states the smallest share in existence. We have shown, at the beginning of this book, the consequences of the first illusion: it ends by falsifying our representation of matter. The second, complementary to the first, vitiates our conception of mind by casting over the idea of the unconscious an artificial obscurity. The whole of our past psychical life conditions our present state, without being its necessary determinant; whole, also, it reveals itself in our character, although no one of its past states manifests itself explicitly in character. Taken together, these two conditions assure to each one of the past psychological states a real, though an unconscious, existence.

[Margin note: But, if memories are preserved *qua* memories, where are they? Fallacy involved in the question]

But we are so much accustomed to reverse, for the sake of action, the real order of things, we are so strongly obsessed by images drawn from space, that we cannot hinder ourselves from asking *where* memories are stored up. We understand that physico-chemical phenomena take place in the brain, that the brain is in the body, the body in the air which surrounds it, etc.; but the past, once achieved, if it is retained, where is it? To locate it in the cerebral sub- (pg 192) -stance, in the state of molecular modification, seems clear and simple enough, because then we have a receptacle, actually given, which we have only to open in order to let the latent images flow into consciousness. But if the brain cannot serve such a purpose, in what warehouse shall we store the accumulated images? - We forget that the relation of container to content borrows its apparent clearness and universality from the necessity laid upon us of always opening out space in front of us, and of always closing duration behind us. Because it has been shown that one thing is within another, the phenomenon of its preservation is not thereby made any clearer. We may even go further: let us admit for a moment that the past survives in the form of a memory stored in the brain; it is then necessary that the brain, in order to preserve the memory, should preserve itself. But the brain, in so far as it is an image extended in space, never occupies more than the present moment: it constitutes, with all the rest of the material universe, an ever renewed section of universal becoming. Either, then, you must suppose that this universe dies and is born again miraculously at each moment of duration, or you must attribute to it that continuity of existence which you deny to consciousness, and make of its past a reality which endures and is prolonged into its present. So that you leave rained nothing by depositing the memories in matter, and you find yourself, on the contrary, compelled (pg 193) to extend to the totality of the states of the material world that complete and independent survival of the past which you have just refused to psychical states. This survival of the past per *se* forces itself upon philosophers, then, under one form or another; and the difficulty that we have in conceiving it comes simply from the fact that we extend to the series of memories, in time, that obligation of *containing* and *being contained* which applies only to the collection of bodies instantaneously perceived in space. The fundamental illusion consists in transferring to duration itself, in its continuous flow, the form of the instantaneous sections which we make in it.

[Margin note: The past has not ceased to existed; it has only ceased to be useful]

But how can the past, which, by hypothesis, has ceased to be, preserve itself? Have we not here a real contradiction? - We reply that the question is just whether the past has ceased to exist or whether it has simply ceased to be useful. You define the present in an arbitrary manner as *that which is,* whereas the present is simply

what is being made. Nothing is less than the present moment, if you understand by that the indivisible limit which divides the past from the future. When we think this present as going to be, it exists not yet; and when we think it as existing, it is already past. If, on the other hand, what you are considering is the concrete present such as it is actually lived by consciousness, we may say that this present consists, in large measure, in the immediate (pg 194) past. In the fraction of a second which covers the briefest possible perception of light, billions of vibrations have taken place, of which the first is separated from the last by an interval which is enormously divided. Your perception, however instantaneous, consists then in an incalculable multitude of remembered elements; and in truth every perception is already memory. *Practically we perceive only the past,* the pure present being the invisible progress of the past gnawing into the future.

[Margin note: The two memories and their interplay. Each borrows from and supports the other.]

Consciousness, then, illumines, at each moment of time, that immediate part of the past which, impending over the future, seeks to realize and to associate with it. Solely preoccupied in thus determining an undetermined future, consciousness may shed a little of its light on those of our states, more remote in the past, which can be usefully combined with our present state, that is to say, with our immediate past: the rest remains in the dark. It is in this illuminated part of our history that we remain seated, in virtue of the fundamental law of life, which is a law of action: hence the difficulty we experience in conceiving memories which are preserved in the shadow. Our reluctance to admit the integral survival of the past has its origin, then, in the very bent of our psychical life, - an unfolding of states wherein our interest prompts us to look at that which is unrolling, and not at that which is entirely unrolled.

(pg 195) So we return, after a long digression, to our point of departure. There are, we have said, two memories which are profoundly distinct: the one, fixed in the organism, is nothing else but the complete set of intelligently constructed mechanisms which ensure the appropriate reply to the various possible demands. This memory enables us to adapt ourselves to the present situation; through it the actions to which we are subject prolong themselves into reactions that are sometimes accomplished, sometimes merely nascent, but always more or less appropriate. Habit rather than memory, it acts our past experience but does not call up its image. The other is the true memory. Co-extensive with consciousness, it retains and ranges alongside of each other all our states in the order in which they occur, leaving to each fact its place and consequently marking its date, truly moving in the past and not, like the first, in an ever renewed present. But, in marking the profound distinction between these two forms of memory, we have not shown their connecting link. Above the body, with its mechanisms which symbolize the accumulated effort of past actions, the memory which imagines and repeats has been left to hang, as it were, suspended in the void. Now, if it be true that we never perceive anything but our immediate past, if our consciousness of the present is already memory, the two terms (pg 196) which had been separated to begin with cohere closely together. Seen from this new point of view, indeed, our body is nothing but that part of our representation which is ever being born again, the part always present, or rather that which at each moment is just past. Itself an image, the body cannot store up images, since it forms a part of the images; and this is why it is a chimerical enterprise to seek to localize past or even present perceptions in the brain: they are not in it; it is the brain that is in them. But this special image which persists in the midst of the others, and which I call my body, constitutes at every moment, as we have said, a section of the universal becoming. It is then the *place of passage* of the movements received and thrown back, a hyphen, a connecting link between the things which act upon me and the things upon which I act, - the seat, in a word, of the sensori-motor phenomena. If I represent by a cone SAB the totality of the recollections accumulated in my memory, the base AB, situated in the past, remains motionless, while the summit S, which indicates at all times my present, moves forward unceasingly, and unceasingly also touches the moving plane P of my actual representation of the universe. At S the image of the body is concentrated; and, since it belongs to the plane P, this

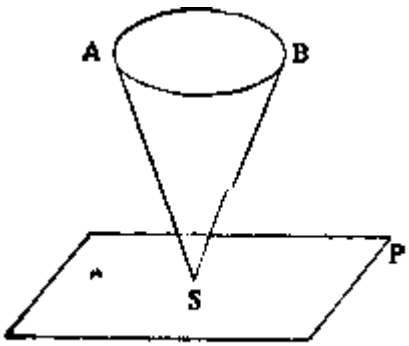

FIG. 4.

image does but receive and restore actions emanating from all the images of which the plane is composed.

[Margin note: 'Good sense' consists mainly in making the right use of spontaneous memory]
(pg 197) The bodily memory, made up of the sum of the sensori-motor systems organized by habit, is then a quasi-instantaneous memory to which the true memory of the past serves as base. Since they are not two separate things, since the first is only, as we have said, the pointed end, ever moving, inserted by the second in the shifting plane of experience, it is natural that the two functions should lend each other a mutual support. So, on the one hand, the memory of the past offers to the sensori-motor mechanisms all the recollections capable of guiding them in their task and of giving to the motor reaction the direction suggested by the lessons of experience. It is in just this that the associations of contiguity and likeness consist. But, on the other hand, the sensori-motor apparatus furnish to ineffective, that is unconscious, memories, the means of taking on a body, of materializing themselves, in short of becoming present. For, that a recollection should reappear in consciousness, it is necessary that it should descend from the heights of pure memory down to the precise point where *action is* taking place. In other words, it is from the present that comes the appeal to which memory responds, and it is from the sensori-motor elements of present action that a memory borrows the warmth which gives it life.

(pg 198) Is it not by the constancy of this agreement, by the precision with which these two complementary memories insert themselves each into the other, that we recognize a well-balanced mind, that is to say, in fact, a man nicely adapted to life? The characteristic of the man of action is the promptitude with which he summons to the help of a given situation all the memories which have reference to it; but it is also the insurmountable barrier which encounter, when they present themselves on the threshold of his consciousness, memories that are useless or indifferent. To live only in the present, to respond to a stimulus by the immediate reaction which prolongs it, is the mark of the lower animals the man who proceeds in this way is a man of *impulse.* But he who lives in the past for the mere pleasure of living there, and in whom recollections emerge into the light of consciousness without any advantage for the present situation, is hardly better fitted for action: here we have no man of impulse, but a *dreamer.* Between these two extremes lies the happy disposition of a memory docile enough to follow with precision all the outlines of the present situation, but energetic enough to resist all other appeal. Good sense, or practical sense, is probably nothing but this.

The extraordinary development of spontaneous memory in most children is due to the fact that (pg 199) they have not yet persuaded their memory to remain bound up with their conduct. They usually follow the impression of the moment, and as with them action does not bow to the suggestions of memory, so neither are their recollections limited to the necessities of action. They seem to retain with greater facility only because they remember with less discernment. The apparent diminution of memory, as intellect developes, is then due to the growing organization of recollections with acts. Thus conscious memory loses in range what it gains in force of penetration: it had at first the facility of the memory of dreams, but then it was actually dreaming. Indeed we observe this same exaggeration of spontaneous memory in men whose intellectual development hardly goes beyond that of childhood. A missionary, after preaching a long sermon to some African savages, heard one of them repeat it textually, with the same gestures, from beginning to end.[1]
[1] *Kay, Memory and How to Improve ii.* New York, 1888, p. 18.

But, if almost the whole of our past is hidden from us because it is inhibited by the necessities of present action, it will find strength to cross the threshold of consciousness in all cases where we renounce the interests of effective action to replace ourselves, so to speak, in the life of dreams. Sleep, natural or artificial, brings about an indifference (pg 200) of just this kind. It has been recently suggested that in sleep there is an interruption of the contact between the nervous elements, motor and sensory.[2] Even if we do not accept this ingenious hypothesis, it is impossible not to see in sleep a relaxing, even if only functional, of the tension of the nervous system, ever ready, during waking hours, to prolong by an appropriate reaction the stimulation received. Now the exaltation of the memory in certain dreams and in certain somnambulistic states is well known. Memories which we believed

abolished then reappear with striking completeness; we live over again, in all their detail, forgotten scenes of childhood; we speak languages which we no longer even remember to have learnt. But there is nothing more instructive in this regard than what happens in cases of sudden suffocation, in men drowned or hanged. The man, when brought to life again, states that he saw, in a very short time, all the forgotten events of his life passing before him with, great rapidity, with their smallest circumstances and in the very order in which they occurred.[3]

[2] Mathias Duval, *Théorie histologique du sommeil (C. R. de la Soc. de Biologie,* 1895, p. 74). Cf. Lépine, *ibid., p.* 85 and *Revue de Médecine,* Aug. 1894, and especially Pupin, *Le neurone et les hypothèses histologiques,* Paris, 1896.

[3] Forbes Winslow, *Obscure Diseases of the Brain, p.* 25 et seq. - Ribot, *Maladies de la mémoire, p. 139* et seq.-Mauro, *Le sommeil et les rêves,* Paris, 1878, p. 439.-Egger, *Le moi des mourants (Revue philosophique,* Jan. and Oct. 1896). - Cf. Ball's dictum: 'Memory is a faculty which loses nothing and records everything.' (Quoted by Rouillard, *Les amnésies* [medical thesis], Paris, x885, p. 25.)

(pg 201) [Margin note: Spontaneous memory recalls differences, habit memory similarity; at their meeting place arises the general idea]

A human being who should *dream* his life instead of living it would no doubt thus keep before his eyes at each moment the infinite multitude of the details of his past history. And, on the other hand, the man who should repudiate this memory with all that it begets would be continually acting his life instead of truly representing it to himself: a conscious automaton, he would follow the lead of useful habits which prolong into an appropriate reaction the stimulation received. The first would never rise above the particular, or even above the individual; leaving to each image its date in time and its position in space, he would see wherein it *differs* from others and not how it resembles them. The other, always swayed by habit, would only distinguish in any situation that aspect in which it practically *resembles* former situations; incapable, doubtless, *of thinking* universals, since every general idea implies the representation, at least virtual, of a number of remembered images, he would nevertheless move in the universal, habit being to action what generality is to thought. But these two extreme states, the one of an entirely contemplative memory which apprehends only the singular in its *vision,* the other of a purely motor memory which stamps the note (pg 202) of generality on its *action,* are really apart and are fully visible only in exceptional cases. In normal life they are interpenetrating, so that each has to abandon some part of its original purity. The first reveals itself in the recollection of differences, the second in the perception of resemblances: at the meeting of the two currents appears the general idea.

We are not here concerned to settle once for all the whole question of general ideas. Some there are that have not originated in perception alone, and that have but a very distant connexion with material objects. We will leave these on one side, and consider only those general ideas that are founded on what we have called the perception of similarity. We will try to follow pure memory, integral memory, in the continuous effort which it makes to insert itself into motor habit. In this way we may throw more light upon the office and nature of this memory, and perhaps make clearer, at the same time, by regarding them in this particular aspect, the two equally obscure notions of *resemblance* and of *generality.*

[Margin note: Nominalism and conceptualism revolve in a circle, each leading back to the other.]

If we consider as closely as possible the difficulties of a psychological order which surround the problem of general ideas, we shall come, we believe, to enclose them in this circle: to generalize, it is first of all necessary to abstract, but to abstract to any purpose we must already know (pg 203) how to generalize. Round this circle gravitate, consciously or unconsciously, nominalism and conceptualism, each doctrine having in its favour mainly the insufficiency of the other. The nominalists, retaining of the general idea only its extension, see in it merely an open and unlimited series of individual objects. The unity of the idea can then, for them, consist only in the identity of the symbol by which we designate indifferently all these distinct objects. According to them, we begin by perceiving a thing, and then we assign to it a word: this word, backed by the faculty or the habit of extending itself to an unlimited number of other things, then sets up for a general idea. But, in order that the word should extend and yet limit itself to the objects which it designates, it is necessary that these objects should offer us resemblances which, when we compare them, shall distinguish them from all the objects to which the word does not apply. Generalization does not, consequently, occur without our taking into account qualities that have been found to be common and therefore considered in the abstract; and from step to step, nominalism is thus led to define the general idea by its intension and not merely by its extension, as it set out to do. It is just from this intension that

conceptualism starts; the intellect, on this theory, resolves the superficial unity of the individual into different qualities, each of which, isolated from the individual which limited it, be- (pg 204) -comes by that very isolation representative of a genus. Instead of regarding each genus as including actually a multiplicity of objects, it is now maintained, on the contrary, that each object involves *potentially,* and as so many qualities which it holds captive, a multiplicity of genera. But the question before us is whether individual qualities, even isolated by an effort of abstraction, do not remain individual; and whether, to make them into genera, a new effort of the mind is not required, by which it first bestows on each quality a name, and then collects under this name a multitude of individual objects. The whiteness of a lily is not the whiteness of a snow-field; they remain, even as isolated from the snow and the lily, snow-white or lily-white. They only forego their individuality if we consider their likeness in order to give them a common name; then, applying this name to an unlimited number of similar objects, we throw back upon the quality, by a sort of *ricochet,* the generality which the word went out to seek in its application to things. But, reasoning in this way, do we not return to the point of view of extension, which we just now abandoned? We are then, in truth, revolving in a circle, nominalism leading us to conceptualism, and conceptualism bringing us back to nominalism. Generalization can only be effected by extracting common qualities; but, that qualities should appear common, they must have already been subjected to a process of generalization.

(pg 205) Now, when we get to the bottom of these two opposite theories, we find in them a common postulate; each will have it that we start from the perception of individual objects. The first composes the genus by an enumeration; the second disengages it by an analysis; but it is upon individuals, considered as so many realities given to immediate intuition, that both analysis and enumeration are supposed to bear. This is the postulate. In spite of its apparent obviousness, we must expect to find, and we do indeed find, that experience belies it.

[Margin note: The clear perception of individual objects and the clear conception of genera are alike of late development.]

A priori, indeed, we may expect the clear distinction of individual objects to be a luxury of perception, just as the clear representation of general ideas is a refinement of the intellect. The full conception of genera is no doubt proper to human thought; it demands an effort of reflexion, by which we expunge from a representation the details of time and place. But the reflexion on these details - a reflexion without which the individuality of objects would escape us - presupposes a faculty of noticing differences, and therefore a memory of images, which is certainly the privilege of man and of the higher animals. It would seem, then, that we start neither from the perception of the individual nor from the conception of the genus, but from an intermediate knowledge, from a confused sense of the *striking quality* or of resemblance: this sense, (pg 206) equally remote from generality fully conceived and from individuality clearly perceived, begets them both by a process of dissociation. Reflective analysis clarifies it into the general idea; discriminative memory solidifies it into a perception of the individual.

[Margin note: For the primary perception is a discernment of the useful, of the quality of things]

But this will be more clearly evident if we go back to the purely utilitarian origin of our perception of things. That which interests us in a given situation, that which we are likely to grasp in it first, is the side by which it can respond to a tendency or a need. But a need goes straight to the resemblance or quality; it cares little for individual differences. To this discernment of the useful we may surmise that the perception of animals is, in most cases, confined. It is grass *in general* which attracts the herbivorous animal: the colour and the smell of grass, felt and experienced as forces, (we do not go so far as to say, thought as qualities or genera) are the sole immediate data of its external perception. On this background of generality or of resemblance the animal's memory may show up contrasts from which will issue differentiations; it will then distinguish one countryside from another, one field from another field; but this is, we repeat, the superfluity of perception, not a necessary part. It may be urged that we are only throwing the problem further back, that we are merely relegating to the unconscious the process by which similarity (pg 207) is discovered and genera are constituted. But we relegate nothing to the unconscious, for the very simple reason that it is not, in our opinion, an effort of a psychological nature which here disengages similarity; this similarity acts objectively like a force, and provokes reactions that are identical in virtue of the

purely physical law which requires that the same general effects should follow the same profound causes. Hydrochloric acid always acts in the same way upon carbonate of lime whether in the form of marble or of chalk - yet we do not say that the acid perceives in the various species the characteristic features of the genus. Now there is no essential difference between the process by which this acid picks out from the salt its base, and the act of the plant which invariably extracts from the most diverse soils those elements that serve to nourish it. Make one more step; imagine a rudimentary consciousness such as that of an amoeba in a drop of water: it will be sensible of the resemblance, and not of the difference, in the various organic substances which it can assimilate. In short, we can follow from the mineral to the plant, from the plant to the simplest conscious beings, from the animal to man, the progress of the operation by which things and beings seize from out their surroundings that which attracts them, that which interests them practically, without needing any effort of abstraction, simply because the rest of their surroundings takes no hold upon (pg 208) them: this similarity of reaction following actions superficially different is the germ which the human consciousness developes into general ideas.

[Margin note: So that the general idea is experienced before it is represented]
Consider, indeed, the purpose and function of our nervous system as far as we can infer them from its structure. We see a great variety of mechanisms of perception, all bound, through the intermediary of the centres, to the same motor apparatus. Sensation is unstable; it can take the most varied shades; the motor mechanism, on the contrary, once set going, will invariably work in the same way. We may then suppose perceptions as different as possible in their superficial details: if only they are continued by the same motor reactions, if the organism can extract from them the same useful effects, if they impress upon the body the same attitude, something common will issue from them, and the general idea will have been felt and passively experienced, before being represented. - Here then we escape at last from the circle in which we at first appeared to be confined. In order to generalize, we said, we have to abstract similarity, but in order to disengage similarity usefully we must already know how to generalize. There really is no circle, because the similarity, from which the mind starts when it first begins the work of abstraction, is not the similarity at which the mind arrives when it consciously generalizes. That from which it starts is a similarity felt and lived; or, if you prefer (pg 209) the expression, a similarity which is automatically acted. That to which it returns is a similarity intelligently perceived, or thought. And it is precisely in the course of this progress that are built up, by the double effort of the understanding and of the memory, the perception of individuals and the conception of genera, - memory grafting distinctions upon resemblances which have been spontaneously abstracted, the understanding disengaging from the habit of resemblances the clear idea of generality. This idea of generality was, in the beginning, only our consciousness of a likeness of attitude in a diversity of situations; it was habit itself, mounting from the sphere of movement to that of thought. But from genera so sketched out mechanically by habit we have passed, by an effort of reflexion upon this very process, to the general idea of genus; and when that idea has been once constituted, we have constructed (this time voluntarily) an unlimited number of general notions. It is not necessary here to follow the intellect into the detail of this construction. It is enough to say that the understanding, imitating the effort of nature, has also set up motor apparatuses, artificial in this case, to make a limited number of them answer to an unlimited number of individual objects: the assemblage of these mechanisms is articulate speech.

Yet these two divergent operations of the mind, the one by which it discerns individuals, the other by which it constructs genera, are far from demand- (pg 210) -ing the same effort or progressing with the same rapidity. The first, requiring only the intervention of memory, takes place from the outset of our experience; the second goes on indefinitely without ever reaching its goal. The first issues in the formation of stable images, which in their turn are stored up in memory; the second comes out in representations that are unstable and evanescent. We must dwell on this last point, for we touch here an essential problem of mental life.

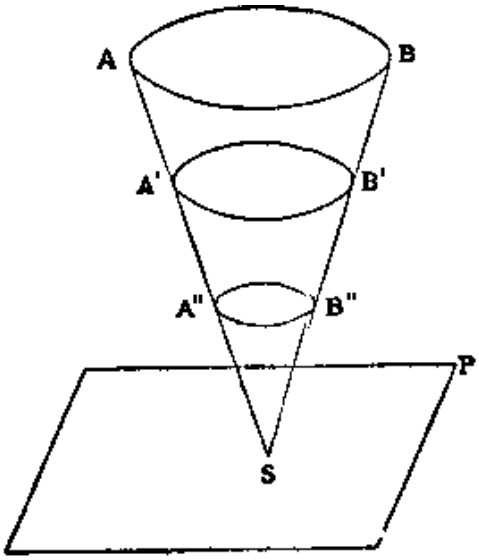

FIG. 5.

[Margin note: And the general idea is always in movement between the plane of action and that of pure memory]

The essence of the general idea, in fact, is to be unceasingly going backwards and forwards between the plane of action and that of pure memory. Let us refer once more to the diagram we traced above. At S is the present perception which I have of my body, that is to say, of a certain sensori-motor equilibrium. Over the surface of the base AB are spread, we may say, my recollections in their totality. Within the cone so determined the general idea oscillates continually between the summit S and the base AB. In S it would take the clearly defined form of a bodily attitude or of an uttered word; at AB it would wear the aspect, no less defined, of the thousand individual images into which its fragile unity would break up. And that is why a psychology which abides by the *already done,* which considers only that which is made and ignores that which is in the making, will never perceive in this movement (pg 211) anything more than the two extremities between which it oscillates; it makes the general idea coincide sometimes with the action which manifests it or the word which expresses it, and at other times with the multitudinous images, unlimited in number, which are its equivalent in memory. But the truth is that the general idea escapes us as soon as we try to fix it at either of the two extremities. It consists in the double current which goes from the one to the other, always ready either to crystallize into uttered words or to evaporate into memories.

This amounts to saying that between the sensori-motor mechanisms figured by the point S and the totality of the memories disposed in AB there is room, as we indicated in the preceding chapter, for a thousand repetitions of our psychical life, figured by as many sections A'B', A"B", etc., of the same cone. We tend to scatter ourselves over AB in the measure that we detach ourselves from our sensory and motor state to live in the life of dreams; we tend to concentrate ourselves in S in the measure that we attach ourselves more firmly to the present reality, (pg 212) responding by motor reactions to sensory stimulation. In point of fact, the normal self never stays in either of these extreme positions; it moves between them, adopts in turn the positions corresponding to the intermediate sections, or, in other words, gives to its representations just enough image and just enough idea for them to be able to lend useful aid to the present action.

From this conception of the lower mental life the laws of the association of ideas can be deduced. But, before we deal with this point, we must first show the insufficiency of the current theories of association.

[Margin note: But associationism errs in missing the connexion between these ideas and our actual needs]

That every idea which arises in the mind has a relation of similarity or of contiguity with the previous mental state, we do not dispute; but a statement of the kind throws no light on the mechanism of association; nor, indeed, does it really tell us anything at all. For we should seek in vain for two ideas which have not some point of resemblance, or which do not touch each other somewhere. To take similarity first: however profound are the differences which separate two images, we shall always find, if we go back high enough, a common genus to which they belong, and consequently a resemblance which may serve as a connecting link between them. And, in regard to contiguity, a perception A, as we said before, will not evoke 'by contiguity' a former image B, unless (pg 213) it recalls to us first an image A' which is like it, because it is the recollection A', and not the perception A, which really touches B in memory. However distant, then, we suppose the terms A and B from each other, a relation of contiguity can always be found between them, provided that the intercalated term A' bears a sufficiently farfetched resemblance to A. This is as much as to say that between any two ideas chosen at random there is always a resemblance, and always, even, contiguity; so that, when we discover a relation of contiguity or of resemblance between two successive ideas, we have in no way explained why the one evokes the other.

What we really need to discover is how a choice is effected among an infinite number of recollections which all resemble in some way the present perception, and why only one of them, - this rather than that, - emerges into the light of consciousness. But this is just what associationism cannot tell us, because it has made ideas and images into independent entities floating, like the atoms of Epicurus, in an inward space, drawing near to each other and catching hold of each other when chance brings them within the sphere of mutual attraction. And if we try to get to the bottom of the doctrine on this point, we find that its error is that it *intellectualizes* ideas over much it attributes to them a purely speculative rôle, believes that they exist for themselves and not for us, and overlooks the relation which they (pg 214) bear to the activity of the will. If memories move about, indifferent, in a consciousness that is both lifeless and shapeless, there is no reason why the present perception should prefer and attract any one of them: we can only, in that case, note the conjunction when once it has taken place and speak of similarity or of contiguity, which is merely, at bottom, to express in vague terms that our mental states have affinities for one another.

But even of this affinity, which takes the double form of contiguity and of similarity, associationism can furnish no explanation. The general tendency to associate remains as obscure for us, if we adhere to this doctrine, as the particular forms of association. Having stiffened individual memory-images into ready-made things, given cut and dry in the course of our mental life, associationism is reduced to bringing in, between these objects, mysterious attractions of which it is not even possible to say beforehand, as of physical attraction, by what effects they will manifest themselves. For why should an image which is, by hypothesis, self-sufficient, seek to accrue to itself others either similar or given in contiguity with it? The truth is that this independent image is a late and artificial product of the mind. In fact, we perceive the resemblance before we perceive the individuals which resemble each other; and, in an aggregate of contiguous parts, we perceive the whole before the parts. We go on from (pg 215) similarity to similar objects, embroidering upon the similarity, as on their common stuff or canvas, the variety of individual differences. And we go on also from the whole to the parts, by a process of decomposition the law of which will appear later, a process which consists in breaking up, for the greater convenience of practical life, the continuity of the real. *Association,* then, is not the primary fact: *dissociation is* what we begin with, and the tendency of every memory to gather to itself others must be explained by the natural return of the mind to the undivided unity of perception.

[Margin note: 'Similarity' and 'contiguity' do not account for anything, unless they are themselves accounted for]
But here we discover the radical vice of associationism. Given a present perception which forms by turns, with different recollections, several associations one after another, there are two ways, as we said, of conceiving the mechanism of this association. We may suppose that the perception remains identical with itself, a true psychical atom which gathers to itself others just as these happen to be passing by. This is the point of view of associationism. But there is also another, - precisely the one which we have indicated in our theory of recognition. We have supposed that our entire personality, with the totality of our recollections, is present, undivided within our actual perception: Then, if this perception evokes in turn different memories, it is not by a mechanical adjunction of more and more numerous (pg 216) elements which, while it remains itself unmoved, it attracts around it, but rather by an expansion of the entire consciousness which, spreading out over a larger area, discovers the fuller detail of its wealth. So a nebulous mass, seen through more and more powerful telescopes, resolves itself into an ever greater number of stars. On the first hypothesis (in favour of which there is little but its apparent simplicity and its analogy with a misunderstood physical atomism), each recollection is a fixed and independent being, of which we can neither say why it seeks to accrue to itself others, nor how it chooses, among a thousand memories which should have equal rights, those with which to associate itself in virtue of similarity or contiguity. We must suppose that ideas jostle each other at random, or that they exert among themselves mysterious forces, and moreover we have against us the witness of consciousness, which never shows us psychical facts floating as independent entities. From the second point of view, we merely state a fact, viz. that psychic facts are bound up with each other, and are always given together to immediate consciousness as an undivided whole which reflexion alone cuts up into distinct fragments. What we have to explain, then, is no longer the cohesion of internal states, but the double

movement of contraction and expansion by which consciousness narrows or enlarges the development of its content. But this move- (pg 217) -ment, we shall see, is the result of the fundamental needs of life; and we shall also see why the `associations,' which we appear to form in the course of this movement, correspond to all the possible degrees of so-called contiguity and resemblance.

[Margin note: They should be considered, first, on the plane of action, where they coincide]

Let us, for a moment, suppose our psychical life reduced to sensori-motor functions alone. They should In other words, suppose ourselves placed be considered, on the in the diagrammatic figure on page 211 at the point S, which corresponds to the they coincide; greatest possible simplification of our mental life. In this state every perception spontaneously prolongs itself into appropriate reactions; for analogous former perceptions have set up more or less complex motor apparatus, which only await a recurrence of the same appeal in order to enter into play. Now there is, in this mechanism, an *association of* similarity, since the present perception acts in virtue of its likeness to past perceptions; and there is also an association *of* contiguity, since the movements which followed those former perceptions reproduce themselves, and may even bring in their train a vast number of actions co-ordinate with the first. Here then we seize association of similarity and association of contiguity at their very source, and at a point where they are almost confounded in one - not indeed thought, but acted and lived. They are not contingent forms of our psychical (pg 218) life; they represent the two complementary aspects of one and the same fundamental tendency, the tendency of every organism to extract from a given situation that in it which is useful, and to store up the eventual reaction in the form of a motor habit, that it may serve other situations of the same kind.

[Margin note: Amd. secondly, on the plane of dream, where they are entirely different]

Let us jump now to the other extremity of our mental life, and, following our line of thought, go from the psychical existence which end, secondly, is merely ‘acted,' to that which is exclusively 'dreamed.' In other words, let us place ourselves on the base AB of memory (page 211) where all the events of our past life are set out in their smallest details. A consciousness which, detached from action, should thus keep in view the totality of its past, would have no reason to dwell upon one part of this past rather than upon another. In one sense, all its recollections would differ from its present perception, for, if we take them with the multiplicity of their detail, no two memories are ever precisely the same thing. But, in another sense, *any* memory may be set alongside the present situation: it would be sufficient to neglect in this perception and in this memory just enough detail for similarity alone to appear. Moreover, the moment that the recollection is linked with the perception, a multitude of events contiguous to the memory are thereby fastened to the perception - an indefinite multitude, which is only (pg 219) limited at the point at which we choose to stop it. The necessities of life are no longer there to regulate the effect of similarity, and consequently of contiguity; and as, after all, everything resembles everything else, it follows that anything can be associated with anything. In the first case the present perception continued itself in determinate movements; now it melts into an infinity of memories, all equally possible. At AB association would provoke an arbitrary choice, and in S an inevitable deed.

[Margin note: Now normal psychical life oscillates between these two extremes, according to the degree of tension in memory]

But these are only two extreme limits, at which the psychologist must place himself alternately for convenience of study, and which are really never reached in practice. There is not, in man at least, a purely sensori-motor state, any more than there is in him an imaginative memory: life without some slight activity beneath it. Our psychical life, as we have said, oscillates normally between these two extremes. On the one hand, the sensori-motor state S marks out the present direction of memory, being nothing else, in fact, than its actual and acting extremity; and on the other hand this memory itself, with the totality of our past, is continually pressing forward, so as to insert the largest possible part of itself into the present action. From this double effort result, at every moment, an infinite number of possible *states* of memory, states figured by the sections (pg 220) A'B', A"B" of our diagram. These are, as we have said, so many repetitions of the whole of our past life. But each section is larger or smaller according to its nearness to the base or to the summit; and moreover each of these complete representations of the past brings to the light of consciousness only that which can fit into the sensori-motor state, and consequently that which resembles

the present perception from the point of view of the action to be accomplished. In other words, memory, laden with the whole of the past, responds to the appeal of the present state by two simultaneous movements, one of translation, by which it moves in its entirety to meet experience, thus contracting more or less, though without dividing, with a view to action; the other of rotation upon itself, by which it turns towards the situation of the moment, presenting to it that side of itself which may prove to be the most useful. To these varying degrees of contraction correspond the various forms of association by similarity.

[Margin note: Associations of similarity are more general when memory is near the plane of action, more personal as it withdraws toward the plane of dream]

Everything happens, then, as though our recollections were repeated an infinite number of times in these many possible reductions of our past life. They take a more common form when memory shrinks most, more personal when it widens out, and they thus enter into an unlimited number of different `systematizations.' A word from a foreign language, (pg 221) uttered in my hearing, may make me think of that language in general or of a voice which once pronounced it in a certain way. These two associations by similarity are not due to the accidental arrival of two different representations, which chance brought by turns within the attracting influence of the actual perception. They answer to two different mental *dispositions,* to two distinct degrees of tension of the memory; in the latter case nearer to the pure image, in the former more disposed towards immediate response, that is to say, to action. To classify these systems, to discover the law which binds them respectively to the different 'tones' of our mental life, to show how each of these tones is itself determined by the needs of the moment and also by the varying degree of our personal effort, would be a difficult task: the whole of this psychology is yet to do, and for the moment we do not even wish to attempt it. But every one is clearly aware of the existence of these laws, and of stable relations of this kind. We know, for instance, when we read a psychological novel, that certain associations of ideas there depicted for us are true, that they may have been lived; others offend us, or fail to give us an impression of reality, because we feel in them the effect of a connexion, mechanically and artificially brought about, between different mental levels, as though the author had not taken care to maintain himself on that plane of the mental life which he (pg 222) had chosen. Memory has then its successive and distinct degrees of tension or of vitality they are certainly not easy to define, but the painter of mental scenery may not with impunity confound them. Pathology, moreover, here confirms - by means, it is true, of coarser examples - a truth of which we are all instinctively aware. In the `systematized amnesias' of hysterical patients, for example, the recollections which appear to be abolished are really present; but they are probably all bound up with a certain determined tone of intellectual vitality in which the subject can no longer place himself.

[Margin note: On the various planes that are intermediate between the two extremes, the same memories are systematized in diverse ways]

Just as there are these *different planes,* infinite in number, for association by similarity, so there are with association by contiguity. In the extreme plane, which represents the base of memory, there is no recollection which is not linked by contiguity with the totality of the events which precede and also with those which follow it. Whereas, at the point in space where our action is concentrated, contiguity brings back, in the form of movement, only the reaction which immediately followed a former similar perception. As a matter of fact, every association by contiguity implies a position of the mind intermediate between the two extreme limits. If, here again, we imagine a number of possible repetitions of the totality of our memories, each of these copies of our past life must be supposed to be cut up, in its own (pg 223) way, into definite parts, and the cutting up is not the same when we pass from one copy to another, each of them being in fact characterized by the particular kind of dominant memories on which the other memories lean as on supporting points. The nearer we come to action, for instance, the more contiguity tends to approximate to similarity and to be thus distinguished from a mere relation of chronological succession: thus we cannot say of the words of a foreign language, when they call each other up in memory, whether they are associated by similarity or by contiguity. On the contrary, the more we detach ourselves from action, real or possible, the more association by contiguity tends merely to reproduce the consecutive images of our past life. It is impossible to enter here into a profound study of these different systems. It is sufficient to point out that these systems are not formed of recollections laid side by side like so many atoms. There are always some dominant memories, shining points round which the others form a vague nebulosity. These shining points are

multiplied in the degree in which our memory expands. The process of localizing a recollection in the past, for instance, cannot at all consist, as has been said, in plunging into the mass of our memories as into a bag, to draw out memories, closer and closer to each other, between which the memory to be localized may find its place. By what happy chance (pg 224) could we just hit upon on a growing number of intercalary recollections? The work of localization consists, in reality, in a growing effort of expansion, by which the memory, always present in its entirety to itself, spreads out its recollections over an ever wider surface and so ends by distinguishing, in what was till then a confused mass, the remembrance which could not find its proper place. Here again, moreover, the pathology of memory is instructive. In retrogressive amnesia, the recollections which disappear from consciousness are probably preserved in remote planes of memory, and the patient can find them there by an exceptional effort like that which is effected in the hypnotic state. But on the lower planes these memories await, so to speak, the dominant image to which they may be fastened. A sharp shock, a violent emotion, forms the decisive event to which they cling; and if this event, by reason of its sudden character, is cut off from the rest of our history, they follow it into oblivion. We can understand, then, that the oblivion which follows a physical or moral shock should include the events which immediately preceded it - a phenomenon which is very difficult to explain in all other conceptions of memory. Let us remark in passing that if we refuse to attribute some such waiting to recent, and even to relatively distant, recollections, the normal work of memory becomes unintelligible. For every event of which the recollection is now imprinted (pg 225) on the memory, however simple we suppose it to be, has occupied a certain time. The perceptions which filled the first period of this interval, and now form with the later perceptions an undivided memory, were then really ‘loose' as long as the decisive part of the event had not occurred and drawn them along. Between the disappearance of a memory with its various preliminary details, and the abolition, in retrogressive amnesia, of a greater or less number of recollections previous to a given event, there is, then, merely a difference of degree and not of kind.

[Margin note: Since the body conditions our attention to life, the normal work of the mind must depend on the wholeness of the sensori-motor system]
From these various considerations on the lower mental life results a certain view of intellectual equilibrium. This equilibrium will be upset only by a perturbation of the elements which serve as its matter. We cannot here go into questions of mental pathology; yet neither can we avoid them entirely, since we are endeavouring to discover the exact relation between body and mind.

We have supposed that the mind travels unceasingly over the interval comprised between its two extreme limits, the plane of action and the plane of dream. Let us suppose that we have to make a decision. Collecting, organizing the totality of its experience in what we call its character, the mind causes it to converge upon actions in which we shall afterwards find, together with the past (pg 226) which is their matter, the unforeseen form which is stamped upon them by personality; but the action is not able to become real unless it succeeds in encasing itself in the actual situation, that is to say, in that particular assemblage of circumstances which is due to the particular position of the body in time and space. Let us suppose, now, that we have to do a piece of intellectual work, to form a conception, to extract a more or less general idea from the multiplicity of our recollections. A wide margin is left to fancy on the one hand, to logical discernment on the other; but, if the idea is to live, it must touch present reality on some side; that is to say, it must be able, from step to step, and by progressive diminutions or contractions of itself, to be more or less acted by the body at the same time as it is thought by the mind. Our body, with the sensations which it receives on the one hand and the movements which it is capable of executing on the other, is, then, that which fixes our mind, and gives it ballast and poise. The activity of the mind goes far beyond the mass of accumulated memories, as this mass of memories itself is infinitely more than the sensations and movements of the present hour; but these sensations and these movements condition what we may term our *attention to Life,* and that is why everything depends on their cohesion in the normal work of the mind, as in a pyramid which should stand upon its apex.

(pg 227) If, moreover, we cast a glance at the minute structure of the nervous system as recent discoveries have revealed it to us, we see everywhere conducting lines, nowhere any centres. Threads placed end to end, of which

the extremities probably touch when the current passes: this is all that is seen. And perhaps this is all there is, if it be true that the body is only a place of meeting and transfer, where stimulations received result in movements accomplished, as we have supposed it to be throughout this work. But these threads which receive disturbances or stimulations from the external world and return them to it in the form of appropriate reactions, these threads so beautifully stretched from the periphery to the periphery, are just what ensure by the solidity of their connexions and the precision of their interweaving the sensori-motor equilibrium of the body, that is to say its adaptation to the present circumstances. Relax this tension or destroy this equilibrium everything happens as if attention detached itself from life. Dreams and insanity appear to be little else than this.

[Margin note: Sleep and insanity detach memory and attention from the sensori-motor functions by which they enter into present reality]

We were speaking just now of the recent hypothesis which attributes sleep to an interruption of the solidarity among the neurons. Even if we do not accept this hypothesis (which is, however, confirmed by some curious experiments) we must suppose, (pg 228) in deep sleep, at least a functional break in the relation established in the nervous system between stimulation and motor reaction. So that dreams would always be the state of a mind of which the attention was not fixed by the sensori-motor equilibrium of the body. And it appears more and more probable that this relaxing of tension in the nervous system is due to the poisoning of its elements by products of their normal activity accumulated in the waking state. Now, in every way dreams imitate insanity. Not only are all the psychological symptoms of madness found in dreams - to such a degree that the comparison of the two states has become a commonplace - but insanity appears also to have its origin in an exhaustion of the brain, which is caused, like normal fatigue, by the accumulation of certain specific poisons in the elements of the nervous system.[4] We know that insanity is often a sequel to infectious diseases, and that, moreover, it is possible to reproduce experimentally, by toxic drugs, all the phenomena of madness.[5] Is it not likely, therefore, that the loss of mental equilibrium in the insane is simply the result of a disturbance of the sensori-motor relations established in the organism? This (pg 229) disturbance may be enough to create a sort of psychic vertigo, and so cause memory and attention to lose contact with reality. If we read the descriptions given by some mad patients of the beginning of their malady, we find that they often feel a sensation of strangeness, or, as they say, of `unreality,' as if the things they perceived had for them lost solidity and relief.[6] If our analyses are correct, the concrete feeling that we have of present reality consists, in fact, of our consciousness of the actual movements whereby our organism is naturally responding to stimulation; so that where the connecting links between sensations and movements are slackened or tangled, the sense of the real grows weaker or disappears.[7]

[4] This idea has recently been developed by various authors. A systematic account of it will be found in the work of Cowles, *The Mechanism of Insanity (American Journal of Insanity,* 1890-1891).

[5] See, in especial, Moreau de Tours, *Du haschisch.* Paris, 1845.

[6] Ball, *Leçons sur les maladies mentales.* Paris, 1890, p. 608 et seq.-Cf. a curious analysis: Visions, *a Personal Narrative, Journal o/ Menial Science (1896, p. 284).*

[7] See above, p. 176.

There are here, moreover, many distinctions to be made, not only between the various forms of insanity, but also between insanity properly so-called and that division of the personality which recent psychology has so ingeniously compared with it.[8] In these diseases of personality it seems that groups of recollections detach themselves from the central memory and forego their solidarity with the others. But, then, it seldom occurs that the patient does not also display accompany- (pg 230) -ing scissions of sensibility and of motor activity.[9] We cannot help seeing in these latter phenomena the real material substratum of the former. If it be true that our intellectual life rests, as a whole, upon its apex, that is to say upon the sensori-motor functions by which it inserts itself into present reality, intellectual equilibrium will be differently affected as these functions are damaged in one manner or in another. Now, besides the lesions which affect the general vitality of the sensori-motor functions, weakening or destroying what we have called the sense of reality, there are others which reveal themselves in a mechanical, not a dynamical, diminution of these functions, as if certain sensori-motor connexions merely parted company with the rest. If we are right in our hypothesis, memory is verb differently affected in the two cases. In the first, no recollection is taken away, but all recollections are less ballasted, less solidly directed towards the real; whence arises a true disturbance of the mental equilibrium. In the second, the equilibrium is not destroyed, but it loses something of its complexity. Recollections retain their normal aspect, but forego a part of their solidarity, because

their sensori-motor base, instead of being, so to speak, chemically changed, is mechanically diminished. But neither in the one case nor in the other are memories directly attacked or damaged.

[8] Pierre Janet, *Les accidents mentaux.* Paris, 1894, p. 292 et seq.

[9] Pierre Janet, *L'automatisme psychologique.* Paris, 1898, p. 95 et seq.

(pg 231) [Margin note: Injuries to the brain affect the motor prologations through which memories are actualized, or the sensori-motor equilibrium which conditions our 'attention to life'. They cannot destroy memories.]

The idea that the body preserves memories in the mechanical form of cerebral deposits, that the loss or decrease of memory consists in their more or less complete destruction, that the heightening of memory and hallucination consists, on the contrary, in an excess of their activity, is not, then, borne out either by reasoning or by facts. The truth is that there is one case, and one only, in which observation would seem at first to suggest this view: we mean aphasia, or, more generally, the disturbance of auditory or visual recognition. This is the only case in which the constant seat of the disorder is in a determined convolution of the brain; but it is also precisely the case in which we do not find a mechanical, immediate and final destruction of certain definite recollections, but rather the gradual and functional weakening of the whole of the affected memory. And we have explained how the cerebral lesion may effect this weakening, without the necessity of supposing any sort of provision of memories stored in the brain. What the injury really attacks are the sensory and motor regions corresponding to this class of perception, and especially those adjuncts through which they may be set in motion from within; so that memory, finding nothing to catch hold of, ends by becoming practically powerless: now, in psychology, powerlessness means unconsciousness. In all other cases, the lesion observed or supposed, never defi- (pg 232) -nitely localized, acts by the disturbance which it causes to the whole of the sensori-motor connexions, either by damaging or by breaking up this mass: whence results a breach or a simplifying of the intellectual equilibrium, and, by *ricochet,* the disorder or the disjunction of memory. The doctrine which makes of memory an immediate function of the brain - a doctrine which raises insoluble theoretical difficulties - a doctrine the complexity of which defies all imagination, and the results of which are incompatible with the data of introspection - cannot even count upon the support of cerebral pathology. All the facts and all the analogies are in favour of a theory which regards the brain as only an intermediary between sensation and movement, which sees in this aggregate of sensations and movements the pointed end of mental life - a point ever pressed forward into the tissue of events, and, attributing thus to the body the sole function of directing memory towards the real and of binding it to the present, considers memory itself as absolutely independent of matter. In this sense, the brain contributes to the recall of the useful recollection, but still more to the provisional banishment of all the others. We cannot see how memory could settle within matter; but we do clearly understand how according to the profound saying of a contemporary philosopher - materiality begets oblivion.[10]

[10] Ravaisson, *La Philosophie en France au xix' siècle,* 3rd edit., p. 176.