I.—SOME REMARKS ON MEMORY AND INFERENCE.

BY F. H. BRADLEY.

Ambiguity of Memory—How do we think at all of the past?—By a construction—This explained and objections answered—No merely successive association—Difference between memory, fancy, and thought—Mere imagination, what—Inference, what—Defect of internal necessity in the former—Superstition about "abstract" refuted—Memory and inference agree and differ, how?—But memory involves inference—Its relation to inference in the lower sense—How is memory distinguished from mere imagination?—Memory's veracity—Memory and belief—The meanings of "matter of fact" in connexion with memory and mere imagination.

My object in this paper is to discuss certain questions about the nature of memory in connexion with inference on one side and mere imagination on the other. I have been led to write it partly from a desire to explain and justify the position which I took elsewhere. But the reader need not concern himself with the matter from this point of view, and I shall endeavour to treat the subject independently. On the other hand, even if I were able anywhere to deal satisfactorily with all the problems involved in the subject, the present limits are much too narrow. I can offer no more than a discussion imperfect at the best, and in which the reader must not expect to find anything really new.

We may notice first the well-known ambiguity of the word "memory". I have used, and shall use, the term in what seems its proper sense, the consciousness of past events as having been in fact experienced in my past. But memory is often employed otherwise. It may be taken to embrace all recognition and sense of familiarity, to cover persisting after-sensation and resurgent images, sporadic and undated.
It may be a general head which includes all retentiveness and reproduction, and may be enlarged to cover every habit, even where habit rightly or wrongly is applied to a case of mere physical mechanism. And hence nothing is easier than to defend memory as basal, if not as quite ultimate, and to refute the true view that it is a complex and late phenomenon. If, however, we keep in mind its various senses, less labour may be wasted.

Memory in its proper sense seems certainly complex, and involves a high degree and development of thinking, and memory for any sound psychology must be derivative and secondary. We may find it for the moment more convenient to postulate a faculty inexplicable and ultimate, by which I know my past events isolated or even in their synthesis with my present, an organ which gives us really the really existing past, or somehow immediately reports to us that which perhaps really does not exist—an oracle, which, although inexplicable or even perhaps because inexplicable, is to be accounted veracious. But the path which seems easy may be long in the end when it involves us in confusion, and a miracle, however cheap, in the end is dear when it entails the subversion of principle. And if against fact we are led to postulate the veracity of memory, that postulate, as I shall show, leads to ruinous scepticism.

Memory is an ideal construction of the past by which the present reality is qualified, or we know the past as an enlargement by ideal content of reality beyond the present. In this respect memory does not differ, it will be urged at once, from at least some inference and even from fancy. But without at present touching on these differences it will be better to ask in general how we are able at all to think of the past. There is, of course, the further question as to what in the end is the real nature of the past, but that question fortunately does not concern us here. We are to ask about the past simply so far as it is for us.

Now there are doctrines which I must take for granted without explanation or discussion, and all that I can here do is to try to state them so as to avoid unnecessary objections. If the reader finds that he dissents, I would ask him to consider this paper as written for others. We must first of all presuppose retentiveness and the growth of associations, the formation in other words of special dispositions to restore elements previously conjoined; and it is better to abstain here from the least attempt further to explain or formulate these doctrines, since that would involve us in controversy and in the discussion of some obstinate diffi-
cultures. Here I would add merely that I have presupposed nothing except that which I take to be present in principle at the very lowest level of mind.

Now, so much being assumed, it is no great step to advance from it to serial connexions. Wherever A tends to call up B and B to bring in C, A being present will tend to produce the series A-B-C. The means and the condition of this mediate connexion is the identity of B. There is here a common link which is one and the same, or which at least somehow behaves as if it were so, and which also again on examination seems so. Without this identical link there is certainly no series at all, but how far its identity must be perfect is a further question to be considered later. And at this point there arises the difficult and most important problem about the unity of the whole series, a problem at which I shall be able to do no more than glance.

But when once we have such series joined by common links, it seems easy from this point to proceed to the future and past and to transcend the present. For given the disposition to an ideal series such as c-d-e, and given on the other side a present qualified as A(b-c), there is, through the identity of c, a transition from A to e through b-c-d. And with this transition memory, it might be said, is at once explained. Now in principle I think memory is so explained, and the explanation is correct, but it on the other hand is insufficient, and takes no account of serious differences. For in the first place memory has perforce to go backwards if it is to reach the past, while our series, it seems, run all the other way, and we can only think forwards. And in the second place memory is certainly not the mere extension of the present. It gives us rather something which is not the present, something which is known as different and incompatible. I will proceed briefly to discuss these two difficulties, beginning with the second.

To know the past or future as such is a hard and late achievement of the mind, for it implies an enormous degradation of the present. We do not properly represent the past or future until we have gained an order of things in which the present has become but one thing among others. These other things, not the present, are not presented, and, if by a miracle they were so while the present itself still remained untransformed, the result would be chaos. But past and future do not and cannot exist for us until reality appears as a series in which the present has sunk and has become but one member among others. Such an order is an array into the ranks of which the present is cashiered, it is an order
which is ideal and yet real, which is often not practical except remotely and indirectly, and which can conflict sharply with our presented perception and our presented need. The passage to this new world is the barrier, if there is one, between the animal and the human mind. The animal mind (I am here compelled to be dogmatic) has neither past nor future. It has no world but the reality felt present and given, a present qualified ideally and qualified incompatibly with itself, but never transcended and itself degraded to be but another qualification. It has ideas assuredly and from the first, and, if it had not ideas, it could most assuredly have no conation or desire. But the ideas of the animal mind are but adjectives of the given, ideas that enlarge the given and may indefinitely distract it, but never set themselves up beside it as other and equal realities. Hence the animal could never say, Yesterday I was sad but I shall be happy to-morrow. Its present is clouded and is brightened by the movement of its ideas, but remains always its present; its revenges are never retribution for the past, and even its plans, where it has plans, are no forecast of the future. It has, in brief, no world sundered from the world of its immediate practical interest, and to take an immediate practical interest in the past as past is surely not possible.

I regret to be unable to explain and defend this brief statement. It may serve, perhaps, to point out the interval which in my judgment separates memory from the lower level of mind. How in detail that interval is filled up and crossed I cannot here discuss. I agree that it is the use of language for social needs which is the principal agent. It is in this manner, I agree, that in fact we gain a world of ideas beyond, and in part incompatible with, our personal world, an ideal order which seems fixed and independent and which subordinates the present. On the other hand, I must demur to the conclusion that without society no such ideal world is in principle possible or could slowly be fixed by the mind. But, however it may have arisen, it is this ideal order which makes memory possible, and apart from this development to postulate memory is to invoke a senseless miracle.

I will pass next to the difficulty which arises from the direction of our thoughts. The past lies behind us while, it seems, we can only think forwards. Given the disposition to an ideal series b-c-d, then, if Xb is presented, the identity of b can develop X ideally as Xb-c-d. But if, on the other hand, Xd is presented, how are we able to arrive at b-c? Our sensations, we may say, come wave on wave out of the future and disappear backwards into the past, while the
direction of our ideas is naturally opposite, and our associated
series, usually if not always, run from the present to the
future. We, to maintain our being, must face and must meet
with our ideas the incoming waves, and it is this practical
attitude against the course of mere events which gives the
direction to all our series. I do not, indeed, admit that all
our associations are practical, and that is a question I pass
by. But the rule that usually they are directed forwards
we must admit as true, whatever we may think as to possible
exceptions. The current of our lives and thoughts in short
runs opposite to the stream of mere event.

How then, given the disposition to an ideal series a-b-c-d-e,
and given our actual presence at d, can we arrive at the past?
The result is gained in this way. Our present has a char-
acter associated with a, the beginning of the series, and so, by
means of a, we identify ourselves with and pass through the
series a-b-c-d-e. But this so far is not enough. This series
so far, it will be rightly said, can at best give us a future, and
it will not supply us with a past which lies behind us. Our
explanation, however, so far was incomplete, and our fuller
reply is as follows: (a) In order to perceive the past we
must not merely identify ourselves with the beginning of a
series, but that beginning must, also and as well, be incompat-
ible with our present. That beginning must, beside its
identity with our present state, have also a further character
which prevents identification. If our present is Xd, then,
since x is associated with a, we through x ideally recon-
stitute Xa, but the two, Xd and Xa, are or may be incompatible.
(b) And secondly, starting from this incompatible beginning
Xa, the series leads up to our actual present Xd, and can be
prolonged into the future. And this in principle is the ex-
planation required for our recovery and perception of the
past.

I will illustrate this first by a simple example which in
part is defective. I have seen a stone thrown and now
perceive it at my feet. It is the ideal identity of the stone
which reinstates its existence at the point of departure, an
existence incompatible with the present. And then that
incompatible sameness produces itself in series ideally till
it is one with the actual present perception. The illustra-
tion is, however, imperfect because it presupposes and makes
use of a fixed spatial order, and, whatever may be true of our
actual development, I cannot think that in principle such a
spatial series is involved. Let us then take another illustra-
tion. Let us suppose that in the same locality I am first wet
and cold and then dry and warm. Now my personal presence
in this place can by association restore in idea my wet and cold presence in the same place, the two being both the same and yet also incompatible—and then an intermediate series, say of lighting the fire, or of the sun's coming out, may unite by an ideal prolongation the first with the second. It is by a leap through ideal identity that we make ourselves one with what is incompatible with our present, and this difference being then connected by a series with our present, we have our past, which is thus given both as sundered and as connected. Such at least is the main principle involved though I cannot attempt to work it out in its complex detail. The most instructive illustration is probably furnished by the fact of double memory. That past from time to time is remembered or forgotten which has or has not the special quality which from time to time distinguishes the present. In this way at least the facts can in principle be explained, and in some cases the actual quality appears to have been discovered.¹

The above may be made clearer, perhaps, by a reply to a possible objection. You cannot in every case, it may be said, show that what we remember is thus reproduced from the present, and memory therefore, it may be urged, is immediate and inexplicable—except of course, like everything else, by physiology. Now I should myself admit that the reason why I remember this thing and not that often cannot be found in my present psychical state. One might indeed urge that the reason is in all cases there and has been simply overlooked, but I am not myself prepared to endorse this contention. For our present purpose I would rather take no account of unconscious states of mind, and the contention seems not warranted by the facts which we are able actually to observe. Certainly to argue, on the other hand, that dispositions work without any kind of support from my present psychical state would be quite mistaken. The support is there always, though not always, I admit, the special support to this one disposition against another. And the cause of this special activity, I am quite ready to add, is in some cases to be taken as initiated merely cerebrally. But then I object that simply so far and with no more than this we have no memory at all. We have no memory until that which is reproduced is ideally

¹ By Janet. See his Automatisme. The principle was long ago laid down by Lotze. I would remark in this connexion that any one who fails to see that the present character of my feeling is a basis of reproduction, and who argues as if that basis must either be something before the mind, or else not psychical at all, does not in my opinion really understand the doctrine of Association.
separated from and is ideally connected with my present, and this ideal separation and connexion is and must be performed always in the way which I have described. In short, memory as immediate is to my mind a sheer miracle, and I cannot accept a miracle even where I am assured that it is due merely to the brain.

The past, we have so far seen, is perceived by means of serial association, and, before I proceed, it is necessary to warn the reader here against a dangerous misconception. We have in the series $a-b-c$ the association of $b$ with $a$ and of $c$ with $b$; but we have not merely these separate associations, and, if we had no more than this, we should have no series at all. For every series which we know is known by us as one, and, if it had no real unity, the appearance of its oneness would be inexplicable. But this unity involves, so far as I can see, and consists in an ideal identity of character. There is some one content that is present through and is developed by the series, and is qualified by and itself essentially qualifies this series. But, if so, the members of the series will be joined not merely by association with one another, for each one must be associated also with one and the same quality. There will hence in fact be no merely successive association any more than there is any merely successive perception. The division of association into that which is simultaneous and that which is merely successive is in principle vicious, and any enquiry based on it is foredoomed to failure. The succession should be represented not as $Xa-b$ but rather as $\triangle$. And so we perceive how the whole series may thus be thought of as one, and how the idea of the whole is united with and so may reproduce any of the members, singly or at irregular intervals, and again in either direction. For beside the mere association of member with member we have as its complement in every series the con-

1 If we wish to avoid mistake here, we must beware of confusion. We must distinguish the exciting cause of a reproduction from the ground of a memory. The ground of a particular memory is that which places it in connexion with a certain member of my past series. But it may be partially excited by that which cannot complete and so date it. A scent may, for instance, remind me of a certain flower, which then by association calls up its adjuncts involving a dated event in my life. The dating associations here are not those which excite, and the latter may be very frail and slight indeed. The reproduced when excited then dates itself by association with what is constructed from my present. If on the contrary I go backwards or forwards retracing my life, the exciting cause of a memory and its ground may be the same.
nexion of each member with the idea of the whole. And with this brief warning on a matter of the greatest importance I must pass on to pursue further the subject of this article.

We are aware of and think of the past as past always by an ideal construction from the present, and the immediate presentation of the past as such would be a gratuitous miracle. But the past comes to us not by memory alone but also in mere fancy and again by pure inference, and it is clear that we are here concerned with serious differences. I may for instance remember that yesterday I sent a letter to the post, or I may imagine how I might have done this, though in fact I know that I did not, or again, while I cannot remember my act, I can perhaps prove that it happened. I will now briefly discuss the nature of these differences, beginning with mere fancy in its contrast with thought, and taking thought here in the sense of proof or inference.

How does mere imagination differ from inference? The question, difficult in itself, has been obscured by a fundamental error, a superstition about the abstract nature of thought proper. Deferring the consideration of this, I will state briefly the true ground of distinction. In inference there is, or at least there is supposed to be, a continuous necessity, and there is necessity because in a word there is identity. The self-same subject develops itself ideally in the process, and is qualified in the conclusion. And it qualifies itself throughout by itself, without the intrusion at any point of an extraneous connexion. We say that $b$ is $c$ and $c$ is $d$ and $d$ is $e$, and each of these is not because of anything outside, but simply. Hence $Ab$ must be $Ae$ because in the end it is so. And whatever difficulties may be raised as to the possibility of using in our actual practice this type, this type at

---

1 This consideration, I need hardly add, should never be lost sight of, as at times it has been, in investigating the subject of “successive,” “regressive,” and again “indirect” association. Another aspect of the same problem is the existence of general forms or schemata of series. It seems clear from abstract considerations as well as from particular facts that these must exist and be used in the retaining of concrete series. Our awareness of gaps and our transition over them, and our power of representing series in an abbreviated form point in this direction. But these schemata, being themselves presumably psychical and associative, tend to confirm the doctrine of our text. There are some results bearing on this point in the investigations of Schömann and Müller. The subject is both very obscure and very difficult, and it deserves more attention than it appears to have received, a remark which applies emphatically to the perception of a series in general.
least represents what we aim at and seek to find in inference. It may help us to perceive this if we suppose that the type is modified. Let us assume no longer that $b$ is $c$ simply, but admit that $b$ is $c$ only by the help of $x$. The premise must now be written $b(x)$ is $c$, and the old conclusion will not stand. We cannot any longer assert that $Ab$ must be $Ae$. It only may be so, and, so far as it is so, it is so because of $x$. The $Ab$ that is $e$ is now not the $Ab$ with which we started. We can no longer assert that the subject has been qualified throughout further without becoming something else. The subject of the conclusion is $Ab$ together with a foreign condition $x$, and the conclusion is therefore conditioned, and, if you assert it of mere $Ab$, it is conditional or faulty.

It is a defect of this kind which vitiates the result of mere imagination. That result we should agree has no necessity. In my mind's wandering the subject $Ab$ may have actually now become $A-e$, but we cannot add that the thing is so really and of itself, for $Ab$, also and just as actually, may become something incompatible and may appear as $Ab$-not-$e$. In mere imagination, because the thing may be otherwise, it is not really what it is. Necessity is not present, and necessity is absent because there is a breach of identity. The subject $Ab$ becomes $Ae$, but you cannot add "of itself". Something extraneous has at some point entered in and has vitiated the process, and you have passed from $b$ to $c$ not because $b$ is $c$, but only because the passage has happened. An element has intervened not belonging directly to the pure essence of $b$, but attached to $b$ merely as $b$ is now present in psychical fact; and it is this unknown addition, this $x$, which by a chance association has carried $Ab$ to $e$. Such is the defect in identity which distinguishes mere imagination from inference, and where this defect is remedied imagination becomes at once the strictest thinking.

It may be instructive to notice here the superstition to which I referred. The distinction of mere imagination from thought consists in the absence or presence of logical control, and that control lies, as we have seen, in the preservation of ideal identity. But where this principle has not been grasped most incredible doctrines have found favour. Thought is abstract, we may be assured, while imagination is concrete.\(^1\)

\(^1\) Compare my Principles of Logic, p. 410.

\(^2\) See for example Prof. Sully, Human Mind, I., p. 384. He finds himself later in conflict with fact, and admits (p. 395, note) that the demarcation is "not to be taken absolutely". But the real question surely is whether the very principle of distinction is not false and contrary to fact,
Now I might ask if mere fancy may not be itself highly abstract, but, passing this by, I will go on to a plainer objection. To maintain all thought to be abstract is to be brought into collision with evident facts. For the lower animals surely can reason while they hardly are able to think abstractly, except in certain theories. And in our own lives the field covered by what is called intuitive understanding is certainly not all abstract or again on the other side devoid of judgment and inference. An obvious instance is the thinking and judging about spatial arrangements in an individual case. And the writer who will assert that such conclusions as He is the guilty man, or That is the right way, are either all abstract or are else not acts of thought, is to my mind past argument. Inference of course is always abstract if that means that it implies analysis and selection, and involves always a principle of necessity which can, or could conceivably, be abstracted. But in any other sense judgment and inference need certainly not be abstract, but may be concrete to an indefinite extent. In short, to set up imagination and thought as two separate faculties, and to speak of one using the other or again being applied to its service, is from first to last erroneous and indefensible. Imagination, if of a certain kind, is not something employed by thought, but is itself thinking proper. If, on the other hand, by mere imagination we mean our mental flow so far as that is subjected to no control whatever, and is so not "used" at all, this certainly is not imagination in the higher sense of the word. Mere imagination, where regulated logically, itself is inference. And again, so far as serving other ends and subjected to other kinds of control, it becomes and itself is contrivance, fancy and crea-

and, if so, how we can be justified in using it. If Prof. Sully's view is that between thought and mere imagination there is in principle really no difference at all, that the distinction drawn between them is merely an affair of language and convenience, and depends, perhaps usually though certainly not always, on degree of concreteness, that is a doctrine which, however unsatisfactory, would be intelligible. But such a doctrine hardly entitles any one who holds it to speak of these processes as if they really were two, to lay down a ground and principle of distinction, and to go on to speak of "a connexion between the two" (p. 381). Such a position seems quite inconsistent and indefensible, though I fear it is not uncommon.

I am tempted to say this again of any one who can maintain that thought must depend upon language. There arises here, of course, the further question, how far thinking, which is not throughout dependent on language, and which is in this sense intuitional, can be genuinely abstract. This is an interesting and important question, but we are not concerned with it here.
tion in various forms, intellectual, practical and aesthetic. It is the special nature of the end and the special nature of the control which makes the difference in principle, and in the case of inference we have seen in what that difference consists.¹

From this our enquiry may return to the subject of memory. The mere imagination of the past, we have seen, is, like inference, an ideal construction from the present, and yet it fails to be inference. Memory is also an ideal construction from the present, and thus we are led to ask in what way memory differs from inference and from fancy; for that there is some difference seems plain. I may, to repeat our instance, infer that on last Monday I must have posted a letter, or I may remember the fact, or again I may merely imagine it, and these three attitudes are not the same. Now, as against fancy, it is clear that memory has necessity. It does not qualify its subject by a predicate the opposite of which can also be remembered, and which for this reason does not qualify the subject itself. Memory, in other words, is a judgment and an assertion about its subject. Hence it is often again said to involve belief, a point which I shall consider lower down. Thus memory being a judgment is so far the same as inference, and we must go on to ask if they are the same altogether.

If inference is understood in the sense in which we have taken it above, inference and memory certainly differ. For in memory there is a sequence and a continuity which is necessary, but on the other hand the necessity is not wholly intrinsic, or, if wholly intrinsic, is not so visibly. We do not, as in inference, go from Ab to Abe, because b is c. The sequence in memory cannot be so stated. The premises are not Ab, be, but must be written as Ab, Be. Now certainly b is contained in and is an element in B, but, with only so much, the sequence fails to be logical. For you cannot logically proceed from Ab, Be, to A-c, unless you assume that Bc is equivalent, say, to b-B-c, and not merely to b(x)-c. The essential question is as to how the difference, which turns

¹ I do not know whether Wundt (Grundzüge, II., p. 490) really means to say that all imagination involves a plan and an idea which it develops. Such a statement seems to be in collision with the obvious fact of mental wandering. The nature of the different kinds of control over mere wandering is, so far as I see, the only ground from which this whole question could be satisfactorily treated. I certainly could not myself attempt that treatment, and I do not myself know where to send the reader for satisfaction. Wundt's exposition seems not only confused in detail but based on no clear principle whatever. Such principles of division as "passive" and "active" are, for instance, much worse than merely useless.
b into B and which so brings in c, is related to b, whether, in short, and how far this difference is really accidental. Let us take once more the example which we used above. When I remember that on Tuesday last I sent my letter, the sending does not follow of itself from the mere idea of myself on last Tuesday. Thus I cannot prove that I sent the letter, and I can even imagine that in fact I did not send it. The connexion, therefore, between the day and the act is not visibly logical, and it may be urged further that the connexion is not logical at all. The predicate, it may be said, does not in memory truly and really belong to the subject of the process. The predicate, on the contrary, is added brutally from without, and is attached by something quite external, and in memory, therefore, as was the case with mere chance imagination, ideal continuity is broken.

Now a breach of visible continuity I have agreed must be admitted, and memory therefore will fall short of inference. There is no proper inference where you predicate the conclusion of the subject because the subject is conditioned by something not intrinsically developed from its own nature. But in memory on the other hand the constraint is not wholly external. For the necessity is taken to lie within the content of the ideal process which develops the subject. From the idea of myself on Tuesday I pass to the sending of my letter because of something which belongs to the nature of things which is taken as present at that date. The compulsion in other words is assumed to come, not from mere matter of fact, but from the special character of a certain concrete fact.1 We wrote the premises of inference as Ab, bc, and of mere imagination as Ab, Bc, where B was equivalent to b(x), and where about the x we could say nothing whatever. But in memory that addition to and condition of b, which constitutes B, is taken not to be a mere x. The bond of union on the contrary is supposed to fall within the area of a specified content. The result is therefore logical so far and not merely psychical. It is logical in so far as the x has been partly determined, and so far as the condition of the result has thus been brought within the process, and no longer, as in mere imagination, falls outside in the unknown. On the other hand, because the x cannot further be specified, the result, though taken as necessary, still falls short of a logical conclusion. For the condition

1 I shall add at the end of this article some further remarks on the logical difference between memory and imagination, and on the ambiguity of the term "matter of fact". Mere imagination gives "matter of fact," in one sense, more than memory does.
which carries Ab to c may qualify Ab beyond its own nature, and the conclusion therefore may not be true if you predicate it of Ab. And so far as in the proper sense we remember, this ignorance and this inability is still implied. In memory the predicate somehow belongs to the subject by the necessity of the content. The necessity is therefore intrinsic so far, since it falls within the process. On the other hand, because it is not known to belong intrinsically to the subject itself, we have no inference proper.

But though memory is not inference, in all memory an inference is involved. To connect my letter with the idea of last Tuesday I must first of all possess myself of that idea. But this possession involves, as we saw, a process from the present to something different, a process made through and resting on a point of ideal identity; and a passage of this sort seems certainly to be an inference. From the present A to the past C because of the c within C, and to go otherwise is not possible. You may object that the initial difference here between c and C is really external to c, just as again the further connexions given by memory were admitted not to be internal. This objection goes deep and would raise questions which I cannot discuss in this paper, but for our present purpose it may be dismissed. It would, if admitted, show that we have a defective inference here, as perhaps almost everywhere, and it would not show that we use no inference at all. And the premise which is and must be employed is this connexion of c with its difference, not taken as subject to the condition of an individual case but as unconditioned and simple. The connexion is of course not really simple in an absolute sense, but it is simple in the sense of being taken as unconditioned by the present fact as such. And if you do not use it so, you clearly cannot transcend the present at all. In other words this connexion is not itself an affair of memory or of "matter of fact," since it underlies these as their condition. The connexion is direct, and the process where it is used, even if it is used unjustifiably, I must therefore call an inference.

Hence to draw an inference from a recollection as such is not possible. For the mere recollection implies that we have not got the premise which we desire to employ. To draw an inference from one individual fact as such to another fact is as impossible in fact as it would be senseless in principle. So far as you remember, we may say, so far you are debarred from reasoning. But on this subject I am confident, that better ideas are beginning to prevail both in psychology and in logic.

We see here that inference both logically and in time precedes memory. I am convinced that, while in fact many or most of the lower animals certainly reason, perhaps none of them is able to remember in the proper sense of memory.
In the proper sense of inference then memory involves an inference but itself really is not one. If, however, the term were used in a looser way, the answer might be different, and the whole sequence might perhaps be called an inference. It would be here as in a case which involves observation. I may see a man and recognise him as a certain person by a genuine inference, and I then may perceive him to act in a certain manner. I may, on this, attribute the perceived act to the inferred person, and this whole process might be termed an inference. And in the same way memory also might be called an inference, for the reason beside that it does not involve perception. I do not think, however, that we need here consider this looser use. Nor will I stop here to discuss a possible attempt to confound inference with memory on the ground that all inference in the end is irrational habit. For the secondary distinction between inference and memory proper would still remain, even if both were in the end mere results of memory in the sense of habit. I could not in this paper attempt to deal with such a fundamental question, and must pass on to another branch of our enquiry.

The above and what follows may, I hope, justify the doctrine I have stated elsewhere, that memory in its essence involves an inference and so is inferential. I have never said or meant that memory consists in mere inference, and that you could make the goodness of the inference a test of memory. The question as to how memory, involving an inference, differs from inference proper, was not discussed or raised by me at all. The statement in my *Logic*, p. 75, as to the want of a point of identity in mere imagination, is certainly, as it stands, obscure and perhaps misleading. Whether my mind was clear when I wrote it I cannot now tell. What I should have said is that wherever we take ourselves merely to imagine, there not only is no intrinsic necessity attaching the result to the starting-place, but we also recognise that the identity of the subject is lost and that there is a breach in continuity. In memory, on the other hand, though the result is not taken as the necessary ideal development of the subject itself, yet we ignore the doubt as to a solution of continuity. We connect the end of the process with and attribute it to the beginning, because the process comes to us from one end to the other without an apparent break or loss of the subject and without the suggestion of an alien intrusion, or again of a sufficient competing alternative. In imagination the connexion between subject and predicate is that of casual occupancy, but in memory we have possession which to such an extent is *de facto* that the question of title is not raised, or, if raised, it is assumed to be somehow satisfactorily settled. With regard to the distinction between inference and mere imagination that is given correctly in my *Logic*, p. 410.

A sceptical objection of this kind, if based on a psychological ground, seems (*Appearance*, p. 137) inconsistent with itself. The proper way to urge the objection is to compare the actual inferences which we must use with that ideal of inference which alone we can take as satisfactory.
A memory, we have seen, is a state of mind which differs from a mere imagination of the past, and in passing from one to the other we are aware that we take a new attitude. But how in the end can we tell that in memory our attitude is justified, and that our remembrance really is any better than mere fancy? So far, indeed, as we can apply inference and can rationally reconstruct the past order, we seem to stand on safe ground. But when we are left at last with an idea of the past which shows no visible inconsistency, but about which we are able to find no further evidence, what test can we apply? The answer must be that we do not possess any valid criterion. There are marks which give us a certain degree of probability, and there are characters which more or less strongly impel us to take the idea as real, but there is in the end no criterion which is not fallible. I will briefly mention the characters which usually distinguish what we call a memory from a mere imagination. The interest of the subject is in the main confined to psychology, we should find some difficulties there into which I shall not enter, and the order of my statement does not pretend to be systematic.

We may place first the characters of clearness and strength, and in the next place fulness of detail, a detail which is not visibly rational. Next may come the sense of familiarity, and after that fixity of connexion, and I will then go on to add a few remarks. (i.) I will not venture to ask here what clearness and strength are to mean, but whatever they mean, a mere imagination may have as much or more of them than a memory, and so much as this seems plain. (ii.) The same may be said with regard to mere fulness of detail, for a simple imagination may be very full in comparison with a memory. The character of the detail is, however, a sign to be noticed. If the particulars are many and yet appear as an accidental conjunction, not depending upon any general idea but all seemingly irrelevant, that, so far as it goes, is a mark of genuine memory. But this mark of irrational detail is, however, no test. (iii.) The sense of familiarity is again deceptive. Its nature has been much discussed, but I think we may represent it as follows. There is in memory an absence of strangeness. The detail comes without shock to a mind which does not expect it and yet is already adjusted to receive it. And this adjustment points to an associative disposition set up by past experience, but it

1 The word "assimilation" tends to introduce us here, in the pages of Wundt and others, into a world of what I will venture to call the merest mythology.
points ambiguously. For your present accidental mood
may favour and support strongly some idea about the past,
and this idea may in consequence strike you as natural
and true. And again a mere imagination, if you repeat it,
becomes in this way familiar, and itself thus creates the
inner association which then offers itself as a witness to
independent fact. And there is, once more here, no sure way
of distinction between the false and the true. (iv.) Fixity of
connexion is again not a trustworthy test. Where an idea
is connected with a certain date strongly and fixedly in such
a way that the opposite is maintained with difficulty, and
where in addition this connexion is constantly recurrent, we
tend to take it as memory. And where, besides this, the
detail appears as a mere conjunction of coinciding particulars,
we feel ourselves confirmed. But mere imagination is un-
fortunately well known to present all these features, and it
is impossible to find an infallible criterion or remedy. There
are certain characters which usually are the result of that
past fact to which the present idea refers. Foremost among
these is that fixity and necessity of non-rational but integral
detail which belongs to and points to an individual experi-
ence; and, when to this is added the sense of familiarity,
then memory seldom fails to appear and is commonly justified.
But the above characters can each, and all together, be present
in a false imagination.

The veracity of memory is not absolute, and memory itself
is subject to the control of a higher criterion. Our justifica-
tion for regarding memory as in general accurate is briefly
this, that by taking such a course we are best able to order
and harmonise our world. There is in the end no other
actual or possible criterion of fact and truth, and the search
for a final fact and for an absolute datum is everywhere the
pursuit of a mere ignis fatuus. You may look for it in out-
ward perception, or you may seek it in inward experience
and intuition, but in each case you are misled by one and the
same error in a different dress. This is a subject too large
to be dealt with here as a whole, but I will notice before
proceeding a recent instructive attempt to prove that memory
is not fallible.

The position taken by Prof. Ladd on this point seems far
from clear. I understand that for him it is a vital matter
to show that memory is at least in part infallible, but for
the rest his procedure seems obscure and even inconsistent.

1 Philosophy of Mind, p. 138, foll. I have at present no acquaintance
with Prof. Ladd's other works.
with itself. He admits the extreme fallibility of memory in
detail, but contends that at least it cannot be wrong in its
assertion of my past existence. But how far, and in what
sense, when bared of or transformed in detail, my past
existence remains mine, is a matter not discussed, nor,
apart from this, is there any evidence produced for the
truth of the contention. If wherever else a witness can be
tested he is shown to be fallible, you can hardly assume
him to be infallible in or beyond a certain point, simply be-
cause in or beyond that point you have in fact always found
him to be right. And with regard to memory of my past
existence the case stands as follows. All the memories that
we can examine belong to minds which have had some
previous existence, and it is very probable that memory can
exist only as the result of some foregoing psychical develop-
ment, however short. And, if this is so, then memory will
be for this extraneous reason, and will be so far, infallible.
It will be infallible, we may say, accidentally and in fact,
but not in principle. Its evidence will depend on and be
restricted to that which is otherwise known. And such an
infallibility is, I presume, for Prof. Ladd's purpose useless.
And even so much as this can, perhaps, not be demonstrated.
For that memory should supervene suddenly at a certain
point of physiological development in such a way that its
report of a past psychical self would be wholly mistaken,
seems not clearly and in principle to be impossible. If so,
even the limited infallibility of memory seems not proved,
but in any case, even if proved, I have shown its dependent
nature. 1

From this obscure and unsafe position Prof. Ladd passes
to a second, which, itself untenable, seems not even consistent
with the first. All reasoning, he argues, goes from premises
to a conclusion, and our knowledge of the conclusion depends
upon our memory of the premises. Hence, if that is fallible,
every possible act of reasoning is discredited. Far then from
being able to show that memory is fallible, we have even to
assume the opposite if we intend to have any conclusion
whatever. And with this we have a sure and certain remedy,
Prof. Ladd argues, against the disease of scepticism. But
the ground of the argument seems to me incorrect, and the

1 If a man mistakenly remembers events ten years before he was born,
is it satisfactory to add: There you see at once that his memory is really
infallible, for he had, as a fact, some actual past (as you saw) before he
made that mistake about his past? And even this amount of de facto
infallibility rests on the assumption I have noticed in the text. It is
therefore so far precarious, as well as in any case derivative.
conclusion drawn quite mistaken. The argument should prove, it seems to me, that memory is not fallible at all. Hence, when a particular memory is shown by reasoning to be false, we are left, it would appear, in hopeless confusion. For we must either accept both contradictories at once, or, if we select, we select on no principle, and surely this must be admitted to amount to scepticism. What we are to do when memory is thus divided against itself, and how mere memory is to sit in judgment on itself, are matters not explained. In short, that argument for the supremacy of reason which holds good against scepticism, becomes, if you transfer it to memory, wholly and entirely sceptical.1

Prof. Ladd’s conclusion then is really sceptical, but the foundation of his argument, to return to that, consists in a mistake. It is not the case that reasoning depends on memory, and such an idea implies a wrong view about inference. In the first place in inference there need be no premises drawn out and put before the mind, and a very large tract of our reasoning must in this sense be called intuitive. Prof. Ladd has seen this, but without more ado he drives the evidence bodily out of court. Everything of this kind is "a merely mechanical movement of the ideas," a conclusion which I venture to regard as quite monstrous and a sufficient disproof of its foundation. That foundation is, however, in itself untenable. To assume that in an inference, where I go from premises to a conclusion, I depend upon memory, is to maintain that in inference I am necessitated en route not to know what I am about, and arrived at the end must have forgotten, and so be forced to remember, the start-

1 How is mere memory to be a ruler and judge of itself? I cannot see how this is to be possible. If, on the other hand, memory is to subject itself to the judgment of reason, I cannot see how anywhere it is to claim independent authority, and to be treated as infallible or as more than de facto not mistaken. These are points on which I seek enlightenment so far in vain. If, for instance, it is urged that, in order to make the world intelligible, I must postulate that memory is right, unless so far as I have some special reason to think it anywhere wrong, I entirely agree. Certainly, I reply, and without doubt, we must make this assumption. But if, on this, I am told that, if so, we have an independent and ultimate postulate, I am forced to demur. Most evidently not so, I answer, if the assumption is made in order to make the world intelligible. If you leave out that, then, I agree, the postulate becomes ultimate, but it becomes at the same time arbitrary and, so far as I see, quite indefensible. If we are to think at all, we must postulate that reason is in principle infallible, and is the ultimate judge of its own errors. But to postulate that memory is in principle infallible seems to me to be, on the one hand, wholly unnecessary and, for any legitimate purpose, quite useless; and, on the other hand, it appears to me to be in the end really quite devoid of meaning.
ing-point and the way—and this surely is erroneous. The normal type of inference is surely the unbroken development of an identical subject, which does not leave the mind by the way and which, therefore, cannot possibly be remembered. This is the normal type, and I will add that, so far as this fails to be present, the operation is really not an inference. With this I must pass from the subject of memory's fallibility.

I will add some words on the question which has been raised about Belief. Memory, we saw, takes its ideas of the past as real, while in mere imagination there is no such claim. It is the addition of belief, then, we hear it said, which turns imagination into memory, and our main task is to find in what this addition consists, or at least to set it down as "a final inexplicability". But the whole question is in this way misunderstood and the issue radically perverted. To take for granted the existence of "mere ideas" as self-evident and as a matter of course, and to treat belief in these as something supervening, or even adventitious, which we have then got to explain, is fundamentally erroneous. It is to make an assumption quite false in its principle and in its consequences most misleading. The presence of and the possibility of these "mere ideas" is, on the contrary, the very thing which calls most for explanation. No such ideas, we may say with confidence, can possibly exist in an early mind. To entertain an idea in which you do not believe, a suspended idea held in separation from the presented reality, is a late and, when we reflect, is an enormous mental achievement. It implies a disruption of that immediate unity of theory and practice which is at first throughout prevalent and is also necessary.

1 Even in an indirect argument where I divide A into A and A, and then by disproving A prove A, I do not in the operation depend upon memory. Certainly at the end of my disproof of A I may have forgotten A, but I then return to the beginning with the knowledge that A is not c, and now with that in my mind reach the conclusion A from A. The knowledge that A is not c does not here depend on memory. It might so depend if, e.g., I had merely found in my notes that I had one day proved A to be false, and if I used that bare result. But so far that result obviously does not pretend to be itself made in my inference at all. And with direct reasoning it seems clear that, so far as the subject has lapsed from the mind by the way, there is properly no inference. The operation, to become an inference, must in some form be repeated without that lapse. The retention of an identical content before the mind, and the assumption that where I have seen no difference by the way there is no difference, can neither of them be called memory except by an abuse of language. The points raised by Prof. Ladd are certainly well worth raising and discussing, but his treatment of them seems not satisfactory.
At an early stage of mind, every suggestion which does not conflict with the felt present is appropriated by that present and is necessarily believed in, so far as we are able as yet to speak of belief. The suggestion, on the other hand, which is not believed in, cannot possibly be retained theoretically, but, apart from appetite or fear, is banished forthwith. It is not my business here to attempt to show how mere ideas become possible, and again how far, and in what sense, the simple entertainment of them still involves judgment and their reference to a modified Reality. It is sufficient to have noticed in passing a common mistake and to have pointed out its nature. The main question, we may say, is not about the plus of belief, but about the minus of mere thinking. The main question in other words is, How is it possible not to believe. Then, when that point is clear, we may approach with confidence a different and subsequent problem, What is the difference between primitive belief and the belief or judgment which comes after doubt, and which really does supervene upon our "mere ideas"? And when we have seen that mere ideas consist in the disruption of a unity, we shall not find it hard to perceive the nature of that which supervenes. It is the restoration of those ideas to the unity from which they were separated, and to which they are now once more joined in a higher sense. It is in this restoration that we must seek and find the real nature of that addition which we observe in belief. But the question of the separation is fundamental, and, if it is ignored, the whole enquiry is wrecked.

I should like to append to this paper some remarks on a point to which I have adverted (p. 156), the question, that is, about what is to be called "Matter of fact". So large a

1 In this matter Prof. Bain’s doctrine of Primitive Credulity has been of great service to psychology. I must, however, in passing remark that I am forced largely to dissent from his view as to belief. I dissent further from the mere identification of judgment with belief, but I cannot enter here into the difference between them. I would further direct the reader’s attention to the fact that I may disbelieve in that which I certainly remember. The memory is here a judgment necessary in and on its own ground, but that region has here been disconnected from the world which I call my real world. This attitude is, of course, my common attitude towards the "imaginary". The judgment will be here a kind of conditional judgment. The difference I have noted between either the theoretical or practical acceptance of an idea after it has been held as a mere idea and its acceptance previously, has great importance. There is a re-union of the element, which was held aloof, once more with the felt reality. And it is this re-union which gives that feeling of "consent" which has been found so inexplicable.
SOME REMARKS ON MEMORY AND INFERENCE. 165

subject, it is obvious, cannot properly be discussed in passing, and what follows, though not new, is offered merely in the way of invitation to further enquiry.

"Matter of fact" seems a highly ambiguous phrase, and for our present purpose we may distinguish three different senses, or three aspects of one sense. (1) The word may stand for that which is merely felt or is simply experienced, something which therefore excludes, so far, anything like judgment, truth, or falsehood. In this meaning of the word, imagination, memory and observation all alike are above, or if you please are below, matter of fact, for their connexions are all more or less analytic and abstract. (2) On the other side, these connexions will be matter of fact in varying degrees in proportion as they are external and apparently devoid of any intrinsic reason. (3) And again, they may be matter of fact as belonging to and as dependent on a certain point in our "real" series. It is on these two later shades of meaning that I am about to make some very brief remarks. 1

The "merely imaginary" marks the farthest extreme of matter of fact in the second of our senses. It is not an affair of mere sense, since it qualifies a subject by an ideal predicate; but its bond of connexion, on the other side, is bare matter of fact. This connexion or conjunction on the one hand is actually there, but on the other hand it seems entirely irrational, since there is no more reason for it than for its diametrical opposite. The connexion therefore is, but it is true and real only by virtue of unknown conditions, and therefore in an unknown form. You pass from subject to predicate not on any ground which appears as intrinsic, not because of anything which seems comprised in your content, but on the strength of what falls outside. This unknown bond is for you no more than the nature of the universe at large, and you may call it matter of fact in general. In this sense of matter of fact memory and observation possess less of it than does mere imagination.

But if we pass from the second to the third sense of our term, and understand matter of fact not as general but as special and individual, the case is altered, and observation and memory must now be admitted to stand above mere imagination. For in them the predicate is not attached to the subject by a merely unknown cause, but is taken as connected with it by the nature of what appears at a certain

1 A man is, I presume, called for good or evil a "matter of fact" person, according as he confines himself to the actual events of what we call "our real world," in opposition either to the "imaginary" or again to wide general principles of truth and conduct.
point of our real series. Their truth therefore belongs to, and is conditioned by, what is known at least in part. The connexion on the one side remains outward and an unintelligible conjunction, so far as its bond, though localised, is not made explicit. The condition cannot be specified and so brought within the subject, and the judgment to this extent remains irrational and mere matter of fact. But on the other side, so far as the connexion falls within, and is conditioned by, a limited area of content, so far as it belongs, in other words, to a special matter of fact, it has so far already ceased to be a mere conjunction, and has become intrinsic and rational.

It is impossible within these limits to attempt to show how the process once begun is carried farther. The growth of our knowledge consists, we may say, in the sustained endeavour to get rid of mere matter of fact, to make the bond of connexion explicit, and to bring the condition of the predicate within the content of the subject. A genuine and complete truth cannot be confined within one part of our real series, but, to be complete and genuine, must take in the rest. And observation, if repeated, and in a higher degree artificial experiment, transcend the individual case and pass into general truth, truth not conditioned by the fact of any date. But whether in the end, and, if so, how far and in what sense, the externality of the predicate can wholly disappear, is a question which here cannot be discussed.

1 A mere imagination, if you take it as an occurrence in my history, belongs to matter of fact in the above sense of limited and individual fact. But this is because you have taken it not logically but psychologically. If you confine yourself to its logical aspect and consider it with reference merely to what it asserts, it is of course so far not an event in my life and a thing which can be observed. It so far is not matter of fact, but possesses matter of fact in the sense of matter of fact in general.

In this respect memory remains inferior. To speak broadly and apart from a certain qualification, we have in memory a mere result which cannot be developed, and we cannot, as in continued and repeated observation, enquire further into the conditions of the result. For in memory (in the main) we are not in direct contact with these special conditions.