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THE ANTECEDENT PROBABILITY OF SURVIVAL.

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In the Hibbert for October 1918 I dealt, to the best of my ability, with the question how far and in what sense human survival is a thing to be desired. I there expressed the opinion that ethical arguments for survival are all in principle vicious; that metaphysical arguments are unlikely to succeed on such a subject; and that empirical investigation by way of psychical research seems the only method left for those who are not prepared to base their beliefs or disbeliefs on the authority of revealed religion or of Professor Ray Lankester.

For psychical research, human survival is one hypothesis among others to account for certain alleged phenomena. In the present paper I do not propose to discuss the evidence for these phenomena or the proper interpretation of them, but to attack a preliminary question. Even if the phenomena be genuine, in the sense that fraud and self-deception have been cut out of the list of possible explanations, there remain other hypotheses to account for them besides survival, *e.g.* telepathy from the living, the agency of non-human spirits, etc. Now, the final probability of an hypothesis always depends on two factors: (*a*) its antecedent probability as compared with that of the alternatives; and (*b*) the completeness with which it accounts for the phenomena as compared with its rivals. By the antecedent probability I mean that which the hypothesis has relative to all known facts that seem to be relevant *other than* the special set of facts which it is put forward to explain. If this be very small for one hypothesis h_1, and much greater for an alternative h_2, then, even though h_1 explain the facts better than h_2, it will generally be more prudent to try to find

some suitable modification of h_2 than to put any great faith in h_1. It is therefore highly important, before we criticise the alleged facts brought forward by psychical research, to come to some conclusion as to the probability of human survival relative to the remaining propositions which we know or suspect to be true of the world. This is what I propose to do in the present paper.

Any such investigation must necessarily be incomplete and tentative. Though I do not think that such special propositions as the survival of men fall within the range of proof or disproof by metaphysical argument, I can see, of course, that the antecedent probability of human survival will vary greatly with one's metaphysical position. If materialism were strict metaphysical truth, survival, though perhaps abstractly possible, would be to the last degree unlikely. Again, if idealism in one of its forms were strictly true, survival would not indeed necessarily follow, for many eminent idealists, such as Lotze, Mr Bradley, and Professor Bosanquet, hold quite consistently that their systems do not necessitate it, and that it is on the whole improbable. Yet idealism is distinctly more favourable to the probability of survival than is the view of the world taken by common-sense, or by non-philosophical scientists, or by dualistic philosophers. Thus a complete discussion would involve the statement and defence of a metaphysical position, and I have neither the space, the faith, nor the ability to offer anything of the kind.

What I propose to do, therefore, is to consider in turn arguments for and against human survival drawn from the constitution of the world as it appears to common-sense and to natural science. In criticising them I shall necessarily step on metaphysical ground, but I hope that this ground will largely be neutral as between rival metaphysicians. Most competent philosophers are agreed that the views of common-sense and of science cannot be literally true; and the preliminary criticisms of all schools are much alike, however far their later arguments and constructions may diverge.

Ethical arguments, sometimes explicit and more often implicit, play so large a part in moulding the actual beliefs of men on this subject, that I must begin by devoting a few lines to showing why, in my opinion, they are all in principle worthless. It is said (and I agree) that if no one survives the death of his body, the world is exceedingly evil. Moreover, there seems often to be flagrant waste and injustice in the (humanly speaking) accidental death of a good man in the height of his usefulness, and in the prolonged and successful life of a bad and

malicious man. And it is argued from this that men probably do survive. Now, the principle of the argument must be this: The world does not have more than a certain degree of badness; if there be no survival, this degree of badness will be surpassed; therefore there must be survival.

Now, if the first premise be based inductively on observation, the argument obviously cuts its own throat. Our inductive data are the facts of life as known up to the present. These include, by hypothesis, a great deal of apparent evil and injustice. Either you take this at its face value in making your inductive argument about the universe as a whole, or you do not. If you do, no process of inductive argument will enable you to conclude that the universe as a whole is likely to contain a less proportion of evil than the part which forms the sole basis of your argument. Hence you cannot return after your argument and call in the goodness of the whole to redress the apparent badness of the part. If, on the other hand, you *start* by treating the evil and injustice which are observable as perhaps only apparent, then you may indeed conclude that the universe as a whole is likely to be better than the part appears to be. But it is circular to use this conclusion to strengthen the belief that the evil of the part is only apparent, for you have only proved the superior goodness of the whole by playing fast and loose with your data. You might just as well have started by treating the virtue and happiness which are observable as perhaps only apparent.

If, again, the goodness of the world be asserted on *a priori* or general grounds, the argument meets with an equally fatal difficulty. There certainly is *some* evil, and therefore the goodness of the whole must somehow be compatible with it. But in that case it seems impossible to lay down any principle by which you can assert that some evils (*e.g.* the annihilation of human spirits) are too great to be compatible with the goodness of the world, whilst others (such as toothache) which certainly exist are compatible with it. No doubt there must be a line drawn somewhere, but I fail to see that we can have the least idea where.

Lastly, it is sometimes argued that the universe has produced people capable of virtue and justice. It therefore cannot be wholly indifferent to right and wrong, and hence there is a probability that it will not be so unjust as to let us perish. This argument is of the form that "who drives fat oxen must himself be fat." No doubt, since there are virtuous people, the nature of the universe must be compatible with the (at least temporary) existence of such people. But we have no

guarantee that what produces virtuous (and, I may add, vicious) people will behave towards them as a virtuous person would.

Ethical arguments may therefore simply be dismissed as irrelevant wherever they occur, and we may pass on to factual arguments used by common-sense and natural science, discarding them at once when they contain an ethical premise.

Now, on the face of it, the most striking feature of the world as known to common-sense is, for our purpose, that it does not present the smallest trace of evidence in favour of survival. Continued action is a necessary, though not a sufficient, criterion of the continued existence of any substance; and this is conspicuously lacking after death. The body ceases to give the characteristic responses at death, and soon it decays and loses even its characteristic shape and appearance. Hence the only evidence that we ever had for the existence of a man's mind has ceased abruptly, and, apart from the alleged facts investigated by psychical research, has ceased for ever so far as our experience goes. We do indeed often believe in the continued existence of substances in spite of long periods during which neither we nor anyone else are aware of them by any of their usual signs. *E.g.*, we believe that silver continues to exist though it be dissolved in nitric acid and kept for years as silver nitrate. But in such cases we believe that at any moment we could restore a substance having the properties of the silver which we dissolved, and connected with it by identity of mass and continuity of spatial positions. Every such factor making for a belief in continued existence is lacking in our ordinary experience of dead men, and thus such a belief seems to have nothing whatever in its favour, and to be, from a logical point of view, a bare unmotived possibility.

Yet, of course, as a matter of history, this has seldom seriously militated against a belief in survival. Such a belief has been all but universal. Now, on the one hand, the mere universality of a belief is no proof of its truth. On the other, the fact that a belief has been widely held by ignorant and primitive men is not a proof of its falsehood. Confronted, then, by a strong belief which seems to have arisen and survived in spite of complete absence of evidence in its favour, we must consider what factors may have caused the belief, and whether any of them are *reasons* as well as *causes*.

A primitive man would certainly not accept the statement that there is practically no evidence to be found in ordinary experience for survival. He would know of dozens of cases of men seen and heard after their death, and he might even

think that he had met with such cases in his own experience. Now, without prejudice to the genuineness of abnormal phenomena in general or to the possibility that savages occasionally experience them, we may be quite certain that in most cases the primitive man is mistaken in thinking that there is any need to assume the continued existence of the dead to explain the phenomena which he regards as evidence for survival. We may divide such phenomena into two classes. The first consists of those which are capable of a perfectly normal explanation ; the second, of those which are now dealt with by psychical research. There is no reason to think that the latter will be more numerous or striking among savages than among civilised men. The first group provides no evidence at all for survival, since the facts have simply been misinterpreted. The second, supposing it to exist, furnishes no evidence *antecedent* to psychical research, since, by hypothesis, it consists of precisely those phenomena which form the subject-matter of that science. Hence the primitive man simply had more *causes* but no better *reasons* for a belief in survival than we have; but a belief irrationally caused in him may have survived in us.

No doubt experiences of fainting and sleeping helped the belief in survival. In these conditions the mind gives no external manifestation of its existence, and the body in many ways resembles a corpse. Yet consciousness returns, and, in the case of dreams, we can remember that it was not really absent whilst our bodies were giving no outward signs of its existence. What more natural, then, than to suppose that at these times the mind leaves the body and follows its own adventures, and that at death it leaves it for good ? But the differences between sleep and death make it impossible to count this undoubted cause of a belief in survival as a valid reason in its favour. If, after dissolving a piece of silver on several occasions in nitric acid and getting it back again, we one day dissolved it in something else and found that nothing we could do would bring back anything with the properties of silver, surely the inference would be obvious. It was reasonable to think that the silver survived the nitric acid treatment because it could be restored; it would not be reasonable to conclude from this that it survived the treatment after which nothing like it can be again obtained. If we chose to assume that it still exists, our assumption is an unmotived possibility. So that once more we have a cause of belief which is not a reason for belief.

Probably neither of the above-mentioned causes would

have sufficed by itself to produce an almost universal belief in survival. Both are to be regarded rather as interpretations of real or supposed facts in terms of this belief than as the original causes of it. The truth is that we have the greatest difficulty in actually envisaging the cessation of our own conscious life. It is easy enough to think of anyone else as having really ceased to exist; it is almost impossible to give more than a cold intellectual assent to the same proposition about oneself. In making a will, *e.g.*, containing elaborate provisions for what is to happen to one's property after one's death, it is almost impossible—unless my own experience be wholly exceptional—not to think of oneself as going to be conscious and able to oversee the working of one's bequests. I at least can continually catch myself in this attitude, and I should imagine it to be quite common even among people who are intellectually persuaded of their future extinction.

Ought we to attach any weight to this instinctive belief which nearly everyone has in his own survival? The mere fact that it is believed without reasons is no conclusive objection against it, since, unless *some* propositions can be known to be true without reasons, *no* proposition can be known to be true for reasons. We must therefore consider the belief without prejudice on its merits. Now, it seems perfectly clear that it is not a self-evident proposition like an axiom, which becomes more certain the more carefully we inspect it. Nor can it be regarded as a postulate, *i.e.* a proposition which, though not self-evident and incapable either of proof or disproof by experience, has to be assumed in order to organise experience and furnish a motive for research. The Uniformity of Nature (in the sense that all conjunctions of attributes are instances of *some* general law) seems to me to be a postulate in this sense; the proposition that John Jones will survive the death of his body seems to be nothing of the kind. In fact, the belief seems to me to represent nothing more profound than an easily explicable limit to our powers of imagination. Naturally, all my experience of myself has been of myself as active and conscious. There have indeed been gaps during dreamless sleep or fainting fits, but consciousness has revived and the gaps have been bridged by memory. Again, at every moment I have been obliged for practical purposes to think of myself as going to exist at later moments; it is therefore a breach with the mental habits of a lifetime to envisage a moment after which the series of my conscious states shall finally have ended. Such a practical difficulty due to habit seems the sole

and sufficient explanation of our instinctive belief in our own indefinite continuance; and it obviously provides no evidence in favour of the truth of the belief.

I think, therefore, that we must conclude that a mere contemplation of the world as it appears to common-sense furnishes no trace of evidence in favour of survival. Ought we to hold that the absence of all evidence *for* constitutes evidence *against*? This is a somewhat delicate question. Sometimes the absence of evidence for a proposition makes strongly against it, sometimes it does not. If I look carefully round a room, and, seeing no one, say, "There is no one in the room," my evidence is purely negative, but is almost conclusive against the proposition, "There is someone in the room." But the fact that I did not see a tuberculosis bacillus in a room would make hardly at all against the probability of there being one there. Finding no evidence for a proposition is only evidence against it if the proposition be such that if it were true there ought to be some observable evidence for it.

Now the proposition, "Some men survive the death of their bodies," is not precisely in the position of either of the two quoted above. I know enough about human bodies and about tuberculosis bacilli to be sure that one of the former could hardly be present in a room without my finding it, but that one of the latter could not be seen even if it were present. I know very much less about the conditions under which one human spirit can make its presence known to others; but I do know something about it. I am a human spirit connected with a body, and all other spirits of whose existence I am certain are in the same position. Setting aside the phenomena treated by psychical research, I know that one such spirit can only make its presence known to another by first moving its own body, thence agitating the air or ether, and thence affecting another human body. My friend dies; I remain alive and connected with my body. Communication with me, therefore, still presumably needs the same complex and roundabout series of material changes as before. Its very complexity and indirectness make it probable that, even if my friend has survived, some necessary link in this mechanism will have broken down. Hence the absence of evidence for his survival cannot logically be regarded as strong evidence against it.

The present position, therefore, is that at the level of the world as it appears to educated common-sense there is not the faintest trace of evidence for survival, though there is a pretty general belief in it. The causes of this belief can be discovered and seen not to be reasons. But the absence of evidence for

survival cannot be taken as strong evidence against it in view of what we know as to the means by which embodied human spirits have to communicate with each other.

Is there at this level any *positive* evidence against survival? I think that there are two sets of facts which impress common-sense and are interpreted as bearing in this direction. One is the apparently haphazard way in which men are born and die. Human beings are constantly brought into the world thoughtlessly and by mistake; many children exist for a few minutes or hours and then die; many are born idiotic. The general impression produced is that the claim to permanence of creatures whose earthly lives begin and end in these trivial ways is somewhat ridiculous. An unwanted child is produced, let us say, in a drunken orgy, and in six weeks dies of neglect or is killed by its mother. Does it seem likely that a being whose earthly career can be started and stopped by such causes is a permanent and indestructible factor in the universe, or indeed that it survives the death of its body at all?

The second fact that seems to bear in the same direction is the continuity between men and animals. The bodies of both begin and cease to be endowed with minds through precisely similar physical and physiological causes. No doubt the mind of any living man differs not merely quantitatively but also qualitatively from that of any living animal; still, the most primitive men can hardly have differed appreciably from the highest animals in their mental endowments. Did *Pithecanthropus erectus* and does every Australian aborigine survive the death of his body? If they do, have not the higher animals an almost equal claim? and, if you grant this for cats and monkeys, will you not be forced in the end to grant it for lice and earwigs? If, on the other hand, you deny that any animal survives, on the ground that their minds are not complex or important enough to be permanent factors in the universe, how can you be sure that any man yet born has possessed a mind of the necessary degree of importance and complexity for survival?

The two facts just quoted do, I am sure, exert a considerable influence against the view that men survive bodily death. I think that they influence me personally more than any others. But the question remains: Have they any logical claim to exert this influence?

The first argument, I am inclined to think, is wholly fallacious. It really involves the illegitimate introduction of a judgment of value into a question of fact. And the judgment of value is itself a rather superficial one. It is thought that,

because the causes of birth and death are often trivial, therefore what seems to begin with birth and end with death cannot be important enough to survive. But (*a*) you cannot argue from the triviality of a cause to the impermanence of its effect. (*b*) The cause is only trivial in the irrelevant ethical sense that it does not involve a considered and deliberate choice by a virtuous human being. There is really no logical transition from : x is caused by the careless or criminal action of a human being to : x is the sort of thing whose existence is transitory. (*c*) When we say that the cause is trivial we commit the usual mistake of taking for *the* cause some factor that happens to be of special practical interest to us. The complete cause of the birth of a child or the death of a man must be of almost unthinkable complexity, whether the child be born or the man killed carelessly or with deliberate forethought. This is true even if we confine ourselves to the material conditions; and we are not really in a position to say that the *complete* conditions of so singular an event as the manifestation of a new mind through a new body are contained in the material world.

The second argument is of course of the classical type which tries to show by continuity of cases that if a man asserts one proposition he ought in consistency to assert another which he would like to deny. Such an argument might be met in one of two ways. We might boldly admit that the minds of lice or of earwigs are just as likely to survive as those of men, or we might try to show that there are relevant differences between the two which make it more reasonable to expect that a man will survive than that an earwig will do so.

The *mere* fact that a man's mind is much more valuable than an earwig's, and therefore worthier to be a permanent factor in the universe, must be regarded as irrelevant; for there is, so far as I can see, no direct connection between value and permanence. No doubt, what is very transitory is not likely to be very valuable, but it does not follow that of two things the more valuable must be the more persistent.

But of course the differences between the minds of men and those of lower animals are never *mere* differences of value. The two sorts of minds only differ in value because they differ in comprehensiveness, unity, and complexity, and because valuable elements are present in one which are absent in the other. Now, it is at least arguable that the superior complexity and unity of a man's mind give it a better chance of survival than an earwig's. Still, I hardly think that the general course of nature suggests any straightforward connection between

unity and complexity on the one hand, and stability on the other. Both the very simple and the highly comprehensive seem to have a fair chance of stability for different reasons. The very simple (like the atom) is stable because of its comparative indifference to changes in external conditions. The highly unified and comprehensive complex (such as the solar system) is stable because it contains so much within itself that there is little left over to disturb it.

Now, this rule does not on the whole favour the survival of men rather than that of earwigs. If we take the *complete* conditions of mind to be material, then of course men and earwigs are in precisely the same position. The minds of both will be uniquely dependent on conditions which lie wholly outside them, and the superior comprehensiveness of the human *mind* counts for nothing, since we know that the human *brain* decays. If, on the other hand, we suppose that consciousness depends upon further and, to us, unknown conditions, our complete ignorance of these precludes us from arguing about them. It would, after all, be quite in accordance with what we know of the order of nature that the earwig's mind should gain more stability from its simplicity than the man's mind gains from its comprehensiveness. The earwig may gain more on the swings than it loses on the roundabouts. There therefore seems to me very little reason to think that earwigs are *specially* unlikely to survive; and I should therefore not consider that, if the survival of men involves that of earwigs, this would make much against the probability of human survival.

I think that people often deceive themselves in arguing from complexity and unity to superior probability of survival by making a confusion between persistence and personal identity. I should agree that, *if* both men and earwigs survive, there is much more likelihood of continued personal identity for the man than for the earwig. But then survival and personal identity are not the same. The latter involves the former, but the converse does not hold. It seems to me quite possible that two series of states of consciousness might have such causal and other connections and such continuity between them that an external observer would be justified in counting the second as a continuation of the first and in speaking of survival. And yet the two series might not be so related that there was any personal identity between them. So my view would be that the differences between human and animal minds do not make it more likely that one shall survive than the other; but they do make it more probable that, *if* both

survive, there will be personal identity with the former than with the latter.

There is also, doubtless, another cause which makes people think that the survival of men is more likely than that of the lower animals. The characteristic mental activities of men seem to be much less closely associated with their bodies than those which they share with animals. To the eye of common-sense, at least—however much this view may need to be modified by the more accurate researches of science,—reasoning and deliberate choice are much less obviously dependent on bodily changes than sensation and reflex action. Hence it seems quite consistent to hold that a mind capable of reason and deliberate choice may survive the death of its body, whilst one which consists of nothing but feeling and impulse will not. Moreover, these characteristically human activities are not specially directed towards the preservation of the body or the production of changes in the material world. Now, if we judge living beings teleologically—and in practice it is hard not to do this—it does seem that an animal accomplishes its whole end and object in maintaining its body and reproducing its species. The characteristically human activities do not seem to be "meant for" such purposes alone. Thus, from a teleological point of view, it does seem that no purpose would be served by the individual survival of an earwig which dies at a reasonable age after bringing up a family; whilst, on the other hand, you can never say that when a man dies he has accomplished all that any man is "good for," and could merely repeat himself indefinitely by survival.

It is exceedingly difficult to say how much weight ought to be given to arguments of this kind; but I do not think it is safe to neglect them altogether. The principle of judging living beings and their parts in terms of a supposed "purpose for which they were made" is undoubtedly valuable as an heuristic method; and it hardly seems possible to suppose that what constantly works can be wholly out of relation to the truth.

Lastly, some people no doubt shrink from admitting the possibility of survival to lower animals out of horror at the immense number of minds which there would be if none, even of the lowest kind, when once started is ever destroyed. This shrinking from mere numerical vastness seems childish. We have no reason to suppose that the world is conducted in accordance with the Law of Parsimony, and the universe may quite well exhibit a prodigality in the item of minds which would horrify the inhabitants of Aberdeen.

To sum up. In the main the proper and sufficient answer to the argument from continuity is that it only makes against human survival if we regard the survival of low kinds of minds as *specially* improbable. Now, there has not appeared to be any strong reason for thinking the *survival* (as distinct from the *personal identity*) of lower minds less probable than that of higher ones. And so the argument from continuity fails to produce a positive reason against human survival. It is true that when minds are regarded from the teleological point of view, which may have some validity, it does seem slightly more probable that human beings should survive than animals. But, just in so far as this argument applies, the alleged continuity between human and animal minds is weakened. If any stress is to be laid on these teleological considerations, we ought, I think, in consistency to hold that the survival of one man is more probable than that of another, since some men resemble the lower animals in their tastes and capacities much more than do others.

The world, then, as it appears to common-sense, offers no reasons for and no positive reason against human survival. The only reason against is the utter absence of all reasons for, and this we have seen is not in the present case a very strong argument. Let us therefore inquire whether the more accurate and detailed investigations of science provide us with any grounds for deciding in one way or the other.

Science on the whole does not reverse but merely amplifies and elaborates the views of common-sense on the connection of mind and body. We already knew that mind and body are intimately connected, and that disease or injury in the latter may gravely modify or to all appearance destroy the former. All the additional information gained from science may be summed up under the following three heads:—(i) More detailed knowledge has been got of the correlation between injuries to particular parts of the brain and defects in particular departments of mental life. Connected with this is the knowledge that many mental processes which seem to common-sense almost independent of the body have bodily correlates. (ii) We have gained the surprising information that, in spite of the apparent interaction of mind and body, the body and its material surroundings form a closed energetic system from the point of view of the Conservation of Energy. (iii) We know more about the detailed structure and general plan of the brain and nervous system.

Now, what bearing has all this on the probability of human survival? We find bodies without minds; we never find

minds without bodies. When we do find minds we always find a close correlation between their processes and changes and those of their bodies. This, it is argued, strongly suggests that minds depend for their *existence* on their bodies; in which case, though survival might still be abstractly possible, it is to the last degree unlikely. At death there takes place *completely* a process of bodily destruction which, when it occurs *partially* during life through accident or disease, carries with it the destruction of *part* of our mental life. The inference seems only too obvious.

An attempt is often made to meet this argument on the following lines. We can draw a distinction between the existence of a mind and the manifestation of that existence to other minds. It might be argued that it is only the latter which depends on bodily conditions. When our brains are injured we cannot inform other people through our bodies of what is going on in certain departments of our minds. They interpret this as meaning that nothing is going on there, whereas really it is only the means of communication that have broken down.

I do not think that this view can possibly be the whole truth. In the first place, people often recover from injuries and illnesses, and can then tell us what was going on in their minds when they were ill. Now, sometimes they do tell us that their minds were working much as before, but that they were unable to communicate (*e.g.* in cases of aphasia, aboulia, etc.). But often they find introspectively that the period is practically a blank even to themselves. I do not see that we have the right to fly in the face of this distinction drawn by patients themselves on the ground of their own introspection. If we insist on doing so, we must hold that, when a man says that a certain part of his life was a complete blank, either he has lost part of his memory or he is only able to communicate what he knows to be false on the subject. The latter would surely be an absurd conclusion to draw; the former gives up the case altogether, for, if an accident really has destroyed a man's power of remembering certain incidents of his life, it has *not* merely injured his power of communicating with others, but has injured the actual working of his mind.

Again, it is only too common for a wound in the head radically to alter a man's character, to all appearance. Suppose, *e.g.*, that a cheerful and amiable man after such an accident exhibits for the rest of his life moroseness enlivened with fits of homicidal mania on the most trivial occasions. A person who holds that bodily accidents only affect the means by which one

mind communicates with another, and not the mind itself, will have to say that this patient is really still brimming over with benevolent sentiments, but that unfortunately they can only express themselves by frowns and peevish complaints, and by occasionally attacking people with carving-knives. The converse would presumably also hold, and, for all we know, persons who appear to be lifelong philanthropists may in themselves be boiling with malice which some kink in their brains prevents them from expressing by word or action. A theory which has to go to these lengths may surely be rejected.

I think, however, that it is possible to put forward a view which avoids these extravagances and has a good deal in its favour. I suggest that what we call a mind always depends upon a system involving two sets of factors neither of which alone can be called a mind. One set is bodily and consists of the brain and nervous system. This by itself is obviously not a mind. The other set I will simply call "immaterial conditions." I suggest that these, too, by themselves have no right to be called a mind. A mind is the joint product of these two sets of conditions, the bodily C and the immaterial γ; it ceases for the time to exist if either be destroyed or if they cease to stand in the right mutual relations. The mind is thus partly dependent, not merely for its power of manifesting itself, but for its actual states and character, on the bodily conditions C. But it does not follow that the factor γ is destroyed when C breaks up. Certainly, on this view, when C breaks up, the particular mind $M = \phi(C, \gamma)$ ceases to exist. It remains possible, however, that γ continues to exist. Now, γ by itself is not a mind any more than C by itself. But if γ persists, it is possible that in the course of its history it may enter into the right relations with a material system C′ (which of course might or might not consist of matter of the familiar kind). A new mind $M' = \phi(C', \gamma)$ would thus be formed.[1]

Now, the question whether two substances are to be regarded as identical or different is always largely a matter of definition. The minds $\phi(C, \gamma)$ and $\phi(C', \gamma)$ will have a factor in common; and if certain relations hold between the two, we could regard the second as a continuation of the first. In that case we should probably express the facts by saying that the mind had "gone into cold storage" for a time and had then emerged. But the real truth would be that the immaterial factor γ (which we have no reason to regard as

[1] C and γ might be compared to two chemical elements, say silver and chlorine, and M to a chemical compound like silver chloride. The latter depends on the former, but has utterly different properties from either of them.

being itself a mind) had persisted after the destruction of $\phi(C, \gamma)$ and pursued its own adventures till it entered into the combination $\phi(C', \gamma)$, which is a mind with certain cognitive and other relations to $\phi(C, \gamma)$.

Such a theory has several advantages. It does not make the mind a mere epiphenomenon of the brain, yet it allows of as much dependence of mind on brain as science may be able to find. On the other hand, it avoids the difficulty of making the mind a mere user of the body, unaffected in itself by what happens to the latter, and like a pilot in a ship. Most careful thinkers have found it necessary to reject this analogy; the facts make it clear that the union of mind and body is more intimate than this.

But it might well be asked: Is there any positive evidence for such a theory? The only conditions that we know are the material ones; we admit that nothing can be said with confidence about the supposed immaterial conditions: are they not, then, a mere superfluity? I do not think so. There can be no doubt whatever that mind differs from brain, and that states of mind such as my belief that $2 \times 2 = 4$, or my desire for my tea, differ both in themselves and in their mutual relations from states of brain, however closely the two may be connected. My states of mind in their mutual relations form a substantial unity whose terms and relations are of a perfectly unique kind.

Scientists often overlook this fact because, when they talk of states of mind, they are thinking mainly of sense-data, which they confuse with sensations and regard as states of mind. Obviously these *do* have many of the characteristic qualities and relations of matter. But even if they—as distinct from our awareness of them—be states of mind at all (which is highly doubtful), they are certainly only a small and rather trivial sub-class of mental states. One thing, *e.g.*, which physiologists have to accept is the existence of our beliefs about physiology. These are certainly not a mass of sense-data. Our knowledge of physiology consists of a set of beliefs standing in *logical* relations such as *material* objects and their states cannot possess. Again, consider the subject-matter of physiology. The theory is stated in terms of matter, not of sensations or sense-data. Therefore, if the beliefs which constitute the science of physiology be *true*, the physiologist must stand in cognitive relations to objects which are not mind-dependent. Hence the result of the action of the brain must often be to produce, not a special kind of *objects* (viz. sense-data), which are rather like matter, but to establish a special kind of *relation*

(that of cognition) between minds and material objects, which bears not the faintest resemblance to the relations that hold between two pieces of matter.

Now, on the face of it, minds begin at certain dates and grow as the material system develops. Hence anyone who holds that minds are *wholly* due to the material system must hold that certain portions of matter are capable, not merely of affecting other bits of matter, not merely of causing changes in already existing minds, but of actually creating substances of a perfectly new and unique kind. He assumes not merely causation but creation, and he ascribes creation to matter. Now, this does not seem plausible; and anyone who thinks that, in making such an assumption, he is merely applying in a new field the already familiar notion of causation, simply deceives himself. For this reason I think the assumption that some entirely different factor co-operates with matter in the initiation and development of mind is far from being a mere superfluity. If you say that it seems a queer assumption, the appropriate retort is that it has at least the merit of forcing us to remember the extreme "queerness" of the whole situation which we slur over by talking of mind being "caused by" matter, as if the production of a new substance bore any analogy to the familiar causation of one state in a substance by another.

My reason for supposing an additional factor beside matter is thus obvious. My reason for calling it "immaterial" is that, if it were merely more of the same kind as matter, it would not help us. My reason for refusing to call it mind is (*a*) that I do not know enough about it to know whether it resembles the only minds we know in any important respects; and (*b*) that it certainly cannot be identified with the mind of a given man, since that undoubtedly depends partly, even in its most intimate traits, on his brain and nervous system as well as on this immaterial factor.

Naturally, such an hypothesis could not be proved by experiment. To do so it would be necessary to find the people whose brains and material conditions were exactly alike. If their states of mind were different, we could be sure that there must be some other factor beside their brains conditioning their minds. But of course the conditions of such an experiment cannot be fulfilled. Nevertheless, the hypothesis fits in fairly well with certain supposed facts.

E.g., some alienists draw a distinction between mentally and physically caused nervous diseases. I am told that the brain of an epileptic often presents on dissection no observable

differences from that of a normal man. Now, of course, the most probable explanation is simply that there are relevant differences, but that they are too minute or obscure to be noted. But the other possibility does remain that the real difference is in the γ factors of the normal man and the epileptic.

Again, let us suppose that Sally Beauchamp really was, as she claimed to be, co-conscious with B_1. This would be neatly explained by supposing that the Beauchamp brain co-operated at the same time with two different γ factors, and that Sally was $\phi(C, \gamma)$ and B_1 was $\phi(C, \gamma')$. The different characters of the two personalities combined with the practical identity of their knowledge would thus be explained, since the limitation of the mind to a certain set of objects must mainly depend on the C factor which is common to both.

Let us finally see where we stand. The position is this: At first sight the more accurate information which science gives us on the relation of body and mind seemed to furnish a positive ground against survival by showing that the mind is *completely* dependent on the body even when it seems to common-sense to be relatively independent. But when we came to look carefully we saw that things are not so simple. We had, indeed, to admit that the actual states and traits of any known mind (and not merely its external manifestations) are correlated to the highest degree with states of brain. But we saw reason to think that these are probably never the *complete* conditions of the existence or states of any mind. An immaterial factor seemed to be also needed and to fit in with the facts. (This is liable to escape notice (*a*) because scientists do not clearly distinguish their minds from their brains, and (*b*) because the familiarity of the word "causation" enables it to cover a multitude of sins.) This factor, however, cannot be identified with any mind that we know, and may perfectly well not be of the nature of mind at all. And of course it *may* itself cease to exist when the brain decays.

But, on the other hand, the breaking up of the material part of a complex system is no proof or strong presumption of the coincident cessation of its immaterial part. It may be mere nonsense to speak of γ's breaking up or ceasing either by "elanguescence" (to quote Kant) or suddenly "with a pop" (to quote the alternative of a less famous thinker). Hence it remains possible that γ factors persist. Nor need we assume that they remain unaffected by their temporary association with C's, or that when separated from one C they merely vegetate till (if ever) they become connected with another C to form another mind. It may be that γ's pursue their own adventures

and interact with each other in all kinds of ways during their separation from C's. Hence that γ which has, in conjunction with a certain C, constituted the mind of John Smith may (*a*) retain many traces from what happened to the joint system; and (*b*) may some day, according to laws unknown to us, enter into such relations with another material system C′ as to constitute another mind. The identity of the γ factor and the traces that it has kept from the $\phi(C, \gamma)$ combination may be sufficient to provide for memory and other marks of personal identity between $\phi(C', \gamma)$ and $\phi(C, \gamma)$. In that event we shall have the right to say, not merely that John Smith's γ factor has persisted, but also that John Smith has survived.

I should therefore be inclined to say that, although the results of science do not give us the slightest positive reason for believing in survival, yet they do not offer any positive reason against it. For the scientific view either involves the sheer miracle of the creation of a new kind of substance by matter alone, or it has to be supplemented by a hypothesis which makes survival perfectly possible.

So, in the long run, neither science nor common-sense has anything to tell us that is logically relevant either for or against the probability of survival. What does emerge is that—granting the hypothesis about γ factors—survival, in the sense in which it is of practical interest, involves the simultaneous truth of three propositions, any one of which may fail: (*a*) that γ factors persist; (*b*) that they afterwards meet with suitable C factors; and (*c*) that the mind produced by this second conjunction shall have personal identity with that produced by the former conjunction.

All detailed conjectures about such an obscure subject are rather unprofitable. But we may at least hazard the guess that, so far as we can see, it is only with a few men and under exceptionally favourable circumstances that all these conditions are likely to be fulfilled.

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