

The first of these difficulties is relative to the absolute dependence of our spiritual life, as we know it here, upon the brain. One hears not only physiologists, but numbers of laymen who read the popular science books and magazines, saying all about us, How can we believe in life hereafter when Science has once for all attained to proving, beyond possibility of escape, that our inner life is a function of that famous material, the so-called 'gray matter' of our cerebral convolutions? How can the function possibly persist after its organ has undergone decay?

Thus physiological psychology is what is supposed to bar the way to the old faith. And it is now as a physiological psychologist that I ask you to look at the question with me a little more closely.

It is indeed true that physiological science has come to the conclusion cited; and we must confess that in so doing she has only carried out a little farther the common belief of mankind. Every one

knows that arrests of brain development occasion imbecility, that blows on the head abolish memory or consciousness, and that brain-stimulants and poisons change the quality of our ideas. \The anatomists, physiologists, and pathologists have only shown this generally admitted fact of a dependence to be detailed and minute. What the laboratories and hospitals have lately been teaching us is not only that thought in general is one of the brain's functions, but that the various special forms of thinking are functions of special portions of the brain. When we are thinking of things seen, it is our occipital convolutions that are active; when of things heard, it is a certain portion of our temporal lobes; when of things to be spoken, it is one of our frontal convolutions. Professor Flechsig of Leipzig (who perhaps more than any one may claim to have made the subject his own) considers that in other special convolutions those processes of association go on, which permit

the more abstract processes of thought, to take place. I could easily show you these regions if I had here a picture of the brain.¹ Moreover, the diminished or exaggerated associations of what this author calls the *Körperfühlsphäre* with the other regions, accounts, according to him, for the complexion of our emotional life, and eventually decides whether one shall be a callous brute or criminal, an unbalanced sentimentalist, or a character accessible to feeling, and yet well poised. Such special opinions may have to be corrected; yet so firmly established do the main positions worked out by the anatomists, physiologists, and pathologists of the brain appear, that the youth of our medical schools are everywhere taught unhesitatingly to believe them. The assurance that observation will go on to establish them ever more and more minutely is the inspirer of all contemporary research. And almost any of our young psychologists will tell you that only a few belated scholastics, or pos-

sibly some crack-brained theosophist or psychical researcher, can be found holding back, and still talking as if mental phenomena might exist as independent variables in the world.

For the purposes of my argument, now, I wish to adopt this general doctrine as if it were established absolutely, with no possibility of restriction. During this hour I wish you also to accept it as a postulate, whether you think it incontrovertibly established or not ; so I beg you to agree with me to-day in subscribing to the great psycho-physiological formula : *Thought is a function of the brain.*

The question is, then, Does this doctrine logically compel us to disbelieve in immortality? Ought it to force every truly consistent thinker to sacrifice his hopes of an hereafter to what he takes to be his duty of accepting all the consequences of a scientific truth?

Most persons imbued with what one may call the puritanism of science would feel

themselves bound to answer this question with a yes. If any medically or psychologically bred young scientists feel otherwise, it is probably in consequence of that incoherency of mind of which the majority of mankind happily enjoy the privilege. At one hour scientists, at another they are Christians or common men, with the will to live burning hot in their breasts ; and, holding thus the two ends of the chain, they are careless of the intermediate connection. But the more radical and uncompromising disciple of science makes the sacrifice, and, sorrowfully or not, according to his temperament, submits to giving up his hopes of heaven.²

This, then, is the objection to immortality; and the next thing in order for me is to try to make plain to you why I believe that it has in strict logic no deterrent power. I must show you that the fatal consequence is not coercive, as is commonly imagined ; and that, even though our soul's life (as here below it is revealed to

us) may be in literal strictness the function of a brain that perishes, yet it is not at all impossible, but on the contrary quite possible, that the life may still continue when the brain itself is dead.

The supposed impossibility of its continuing comes from too superficial a look at the admitted fact of functional dependence. The moment we inquire more closely into the notion of functional dependence, and ask ourselves, for example, how many kinds of functional dependence there may be, we immediately perceive that there is one kind at least that does not exclude a life hereafter at all. The fatal conclusion of the physiologist flows from his assuming off-hand another kind of functional dependence, and treating it as the only imaginable kind.⁸

When the physiologist who thinks that his science cuts off all hope of immortality pronounces the phrase, "Thought is a function of the brain," he thinks of the matter just as he thinks when he says,

"Steam is a function of the tea-kettle," "Light is a function of the electric circuit," "Power is a function of the moving waterfall." In these latter cases the several material objects have the function of inwardly creating or engendering their effects, and their function must be called productive function. Just so, he thinks, it must be with the brain. Engendering consciousness in its interior, much as it engenders cholesterin and creatin and carbonic acid, its relation to our soul's life must also be called productive function. Of course, if such production be the function, then when the organ perishes, since the production can no longer continue, the soul must surely die. Such a conclusion as this is indeed inevitable from that particular conception of the facts.⁴

But in the world of physical nature productive function of this sort is not the only kind of function with which we are familiar. We have also releasing or permissive function; and we have transmissive function.

The trigger of a crossbow has a releasing function : it removes the obstacle that holds the string, and lets the bow fly back to its natural shape. So when the hammer falls upon a detonating compound. By knocking out the inner molecular obstructions, it lets the constituent gases resume their normal bulk, and so permits the explosion to take place.

In the case of a colored glass, a prism, or a refracting lens, we have transmissive function. The energy of light, no matter how produced, is by the glass sifted and limited in color, and by the lens or prism determined to a certain path and shape. Similarly, the keys of an organ have only a transmissive function. They open successively the various pipes and let the wind in the air-chest escape in various ways. The voices of the various pipes are constituted by the columns of air trembling as they emerge. But the air is not engendered in the organ. The organ proper, as distinguished from its air-chest, is only an

apparatus for letting portions of it loose upon the world in these peculiarly limited shapes.

My thesis now is this: that, when we think of the law that thought is a function of the brain, we are not required to think of productive function only; *we are entitled also to consider permissive or transmissive function.* And this the ordinary psychophysicologist leaves out of his account.

Suppose, for example, that the whole universe of material things — the furniture of earth and choir of heaven — should turn out to be a mere surface-veil of phenomena, hiding and keeping back the world of genuine realities. Such a supposition is foreign neither to common sense nor to philosophy. Common sense believes in realities behind the veil even too superstitiously; and idealistic philosophy declares the whole world of natural experience, as we get it, to be but a time-mask, shattering or refracting the one infinite Thought which is the sole reality into those millions

of finite streams of consciousness known to us as our private selves.

“Life, like a dome of many-colored glass,
Stains the white radiance of eternity.”

Suppose, now, that this were really so, and suppose, moreover, that the dome, opaque enough at all times to the full super-solar blaze, could at certain times and places grow less so, and let certain beams pierce through into this sublunary world. These beams would be so many finite rays, so to speak, of consciousness, and they would vary in quantity and quality as the opacity varied in degree. Only at particular times and places would it seem that, as a matter of fact, the veil of nature can grow thin and rupturable enough for such effects to occur. But in those places gleams, however finite and unsatisfying, of the absolute life of the universe, are from time to time vouchsafed. Glows of feeling, glimpses of insight, and streams of knowledge and perception float into our finite world.

Admit now that *our brains* are such thin

and half-transparent places in the veil. What will happen? Why, as the white radiance comes through the dome, with all sorts of staining and distortion imprinted on it by the glass, or as the air now comes through my glottis determined and limited in its force and quality of its vibrations by the peculiarities of those vocal chords which form its gate of egress and shape it into my personal voice, even so the genuine matter of reality, the life of souls as it is in its fullness, will break through our several brains into this world in all sorts of restricted forms, and with all the imperfections and queernesses that characterize our finite individualities here below.

According to the state in which the brain finds itself, the barrier of its obstructiveness may also be supposed to rise or fall. It sinks so low, when the brain is in full activity, that a comparative flood of spiritual energy pours over. At other times, only such occasional waves of thought as heavy sleep permits get by. And when

finally a brain stops acting altogether, or decays, that special stream of consciousness which it subserved will vanish entirely from this natural world. But the sphere of being that supplied the consciousness would still be intact ; and in that more real world with which, even whilst here, it was continuous, the consciousness might, in ways unknown to us, continue still.

You see that, on all these suppositions, our soul's life, as we here know it, would none the less in literal strictness be the function of the brain. The brain would be the independent variable, the mind would vary dependently on it. But such dependence on the brain for this natural life would in no wise make immortal life impossible, — it might be quite compatible with supernatural life behind the veil hereafter.

As I said, then, the fatal consequence is not coercive, the conclusion which materialism draws being due solely to its one-sided way of taking the word 'function.'

And, whether we care or not for immortality in itself, we ought, as mere critics doing police duty among the vagaries of mankind, to insist on the illogicality of a denial based on the flat ignoring of a palpable alternative. How much more ought we to insist, as lovers of truth, when the denial is that of such a vital hope of mankind!

In strict logic, then, the fangs of cerebralistic materialism are drawn. My words ought consequently already to exert a releasing function on your hopes. You *may* believe henceforward, whether you care to profit by the permission or not. But, as this is a very abstract argument, I think it will help its effect to say a word or two about the more concrete conditions of the case.

All abstract hypotheses sound unreal; and the abstract notion that our brains are colored lenses in the wall of nature, admitting light from the super-solar source, but at the same time tingeing and restricting it, has a thoroughly fantastic sound. What

is it, you may ask, but a foolish metaphor? And how can such a function be imagined? Is n't the common materialistic notion vastly simpler? Is not consciousness really more comparable to a sort of steam, or perfume, or electricity, or nerve-glow, generated on the spot in its own peculiar vessel? Is it not more rigorously scientific to treat the brain's function as function of production?

The immediate reply is, that, if we are talking of science positively understood, function can mean nothing more than bare concomitant variation. When the brain-activities change in one way, consciousness changes in another; when the currents pour through the occipital lobes, consciousness *sees* things; when through the lower frontal region, consciousness *says* things to itself; when they stop, she goes to sleep, etc. In strict science, we can only write down the bare fact of concomitance; and all talk about either production or transmission, as the mode of

taking place, is pure superadded hypothesis, and metaphysical hypothesis at that, for we can frame no more notion of the details on the one alternative than on the other. Ask for any indication of the exact process either of transmission or of production, and Science confesses her imagination to be bankrupt. She has, so far, not the least glimmer of a conjecture or suggestion, — not even a bad verbal metaphor or pun to offer. *Ignoramus, ignorabimus*, is what most physiologists, in the words of one of their number, will say here. The production of such a thing as consciousness in the brain, they will reply with the late Berlin professor of physiology, is the absolute world-enigma, — something so paradoxical and abnormal as to be a stumbling block to Nature, and almost a self-contradiction. Into the mode of production of steam in a tea-kettle we have conjectural insight, for the terms that change are physically homogeneous one with another, and we can easily imagine

the case to consist of nothing but alterations of molecular motion. But in the production of consciousness by the brain, the terms are heterogeneous natures altogether; and as far as our understanding goes, it is as great a miracle as if we said, Thought is 'spontaneously generated,' or 'created out of nothing.'

The theory of production is therefore not a jot more simple or credible in itself than any other conceivable theory. It is only a little more popular. All that one need do, therefore, if the ordinary materialist should challenge one to explain how the brain *can* be an organ for limiting and determining to a certain form a consciousness elsewhere produced, is to retort with a *tu quoque*, asking him in turn to explain how it can be an organ for producing consciousness out of whole cloth. For polemic purposes, the two theories are thus exactly on a par.

But if we consider the theory of transmission in a wider way, we see that it has

certain positive superiorities, quite apart from its connection with the immortality question.

Just how the process of transmission may be carried on, is indeed unimaginable; but the outer relations, so to speak, of the process, encourage our belief. Consciousness in this process does not have to be generated *de novo* in a vast number of places. It exists already, behind the scenes, coeval with the world. The transmission-theory not only avoids in this way multiplying miracles, but it puts itself in touch with general idealistic philosophy better than the production-theory does. It should always be reckoned a good thing when science and philosophy thus meet.⁵

It puts itself also in touch with the conception of a 'threshold,' — a word with which, since Fechner wrote his book called 'Psychophysik,' the so-called 'new Psychology' has rung. Fechner imagines as the condition of consciousness a certain kind of psycho-physical movement, as he terms

it. Before consciousness can come, a certain degree of activity in the movement must be reached. This requisite degree is called the 'threshold ;' but the height of the threshold varies under different circumstances : it may rise or fall. When it falls, as in states of great lucidity, we grow conscious of things of which we should be unconscious at other times ; when it rises, as in drowsiness, consciousness sinks in amount. This rising and lowering of a psycho-physical threshold exactly conforms to our notion of a permanent obstruction to the transmission of consciousness, which obstruction may, in our brains, grow alternately greater or less.⁶

The transmission-theory also puts itself in touch with a whole class of experiences that are with difficulty explained by the production-theory. I refer to those obscure and exceptional phenomena reported at all times throughout human history, which the 'psychical - researchers,' with

Mr. Frederic Myers at their head, are doing so much to rehabilitate; ⁷ such phenomena, namely, as religious conversions, providential leadings in answer to prayer, instantaneous healings, premonitions, apparitions at time of death, clairvoyant visions or impressions, and the whole range of mediumistic capacities, to say nothing of still more exceptional and incomprehensible things. If all our human thought be a function of the brain, then of course, if any of these things are facts, — and to my own mind some of them are facts, — we may not suppose that they can occur without preliminary brain-action. But the ordinary production-theory of consciousness is knit up with a peculiar notion of how brain-action *can* occur, — that notion being that all brain-action, without exception, is due to a prior action, immediate or remote, of the bodily sense-organs *on* the brain. Such action makes the brain produce sensations and mental images, and out of the sensations and images the higher forms of thought and

knowledge in their turn are framed. As transmissionists, we also must admit this to be the condition of all our usual thought. Sense-action is what lowers the brain-barrier. My voice and aspect, for instance, strike upon your ears and eyes ; your brain thereupon becomes more pervious, and an awareness on your part of what I say and who I am slips into this world from the world behind the veil. But, in the mysterious phenomena to which I allude, it is often hard to see where the sense-organs can come in. A medium, for example, will show knowledge of his sitter's private affairs which it seems impossible he should have acquired through sight or hearing, or inference therefrom. Or you will have an apparition of some one who is now dying hundreds of miles away. On the production - theory one does not see from what sensations such odd bits of knowledge are produced. On the transmission - theory, they don't have to be 'produced,' — they exist ready-made in the transcendental-

world, and all that is needed is an abnormal lowering of the brain-threshold to let them through. In cases of conversion, in providential leadings, sudden mental healings, etc., it seems to the subjects themselves of the experience as if a power from without, quite different from the ordinary action of the senses or of the sense-led mind, came into their life, as if the latter suddenly opened into that greater life in which it has its source. The word 'influx,' used in Swedenborgian circles, well describes this impression of new insight, or new willingness, sweeping over us like a tide. All such experiences, quite paradoxical and meaningless on the production-theory, fall very naturally into place on the other theory. We need only suppose the continuity of our consciousness with a mother sea, to allow for exceptional waves occasionally pouring over the dam. Of course the causes of these odd lowerings of the brain's threshold still remain a mystery on any terms.

Add, then, this advantage to the transmission-theory, — an advantage which I am well aware that some of you will not rate very high, — and also add the advantage of not conflicting with a life hereafter, and I hope you will agree with me that it has many points of superiority to the more familiar theory. It is a theory which, in the history of opinion on such matters, has never been wholly left out of account, though never developed at any great length. In the great orthodox philosophic tradition, the body is treated as an essential condition to the soul's life in this world of sense ; but after death, it is said, the soul is set free, and becomes a purely intellectual and non-appetitive being. Kant expresses this idea in terms that come singularly close to those of our transmission-theory. The death of the body, he says, may indeed be the end of the sensational use of our mind, but only the beginning of the intellectual use. "The body," he continues, "would thus be, not the cause of our thinking, but merely a

condition restrictive thereof, and, although essential to our sensuous and animal consciousness, it may be regarded as an impeder of our pure spiritual life.⁸ And in a recent book of great suggestiveness and power, less well-known as yet than it deserves, — I mean ‘Riddles of the Sphinx,’ by Mr. F. C. S. Schiller of Oxford, late of Cornell University, — the transmission-theory is defended at some length.⁹

But still, you will ask, in what positive way does this theory help us to realize our immortality in imagination? What we all wish to keep is just these individual restrictions, these selfsame tendencies and peculiarities that define us to ourselves and others, and constitute our identity, so called. Our finitenesses and limitations seem to be our personal essence; and when the finiting organ drops away, and our several spirits revert to their original source and resume their unrestricted condition, will they then be anything like those sweet streams of feeling which we know, and which even now

our brains are sifting out from the great reservoir for our enjoyment here below? Such questions are truly living questions, and surely they must be seriously discussed by future lecturers upon this Ingersoll foundation. I hope, for my part, that more than one such lecturer will penetratingly discuss the conditions of our immortality, and tell us how much we may lose, and how much we may possibly gain, if its finiting outlines should be changed? If all determination is negation, as the philosophers say, it might well prove that the loss of some of the particular determinations which the brain imposes would not appear a matter for such absolute regret.

But into these higher and more transcendental matters I refuse to enter upon this occasion; and I proceed, during the remainder of the hour, to treat of my second point. Fragmentary and negative it is, as my first one has been. Yet, between them, they do give to our belief in immortality a freer wing.