THE SCIENTIFIC DEMONSTRATION

OF THE

Soul's Existence and Immortality.

A New Argument Based Upon Recent Scientific Discoveries.

By

HENRY FRANK.

New York:
THE ALLIANCE PUBLISHING CO.,
Windsor Arcade,
569 Fifth Avenue,
1903.

"I am very glad to learn that other men have been thinking along the same lines that I have concerning the matter of immortality. I have read your book, 'THE EXISTENCE AND IMMORTALITY OF THE SOUL,' with very great interest. I think that you have developed the subject on its physical side in a very striking manner."
—Dr. S. D. McConnell, author of "The Evolution of Immortality."

"In 'THE EXISTENCE AND IMMORTALITY OF THE SOUL,' the author, Henry Frank, head of the Independent Church movement in New York City, argues on physiological lines that the soul is not resident in the body as a foreign substance, but is the register of the universal spiritual energy in the human organization, penetrating every minute atom. This impalpable presence becomes visible, he says, through the microscopical investigation of the blood. In the second part of the work, the author presents the psychological basis of the argument, giving the data of spiritualism, hypnotism, telepathy, clairvoyance, and other subjects relating to the 'borderland' life."
—"The Literary Digest," N. Y. City.

"You will thank me for calling your attention to Mr. Frank's concise elaboration of this subject in his book on 'THE SOUL'S EXISTENCE AND IMMORTALITY,' from which I have just made a few quotations. He not only shows the existence of the soul's bioplastic body, but he also demonstrates, relying on Beale's discoveries, that the bioplastic body of the soul is structureless and composed of separable substances, and, as its vitalizing energy has its source within itself, will therefore surely survive the physical body."
—From Dr. Harry Marschner's "From Death to Life."

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Part I. Physical Basis of the Soul.

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PART II. PSYCHOLOGICAL EVIDENCE.

In Part I., "On the Physical Basis of the Soul's Existence," I undertook to show how the invisible biological body is the tenement of the soul. It will be remembered that I showed how this body was a translucent and invisible substance, conforming in perfect outline to the normal physical body (in all respects making a perfect fac-simile), but which could not be seen by the naked eye. Its discovery through the microscope, as I said, would be impossible because it cannot be seen as a whole, and the separate, minute bioplasts are discernible to the naked eye only when colored by ammonial carmine. One feature, however, that I did not then mention, which is of the highest importance, is that this biological body consists of a luminous substance. It is really a phosphorescent body, and if it were seen in the dark, wholly separated from the physical body, if such a thing were possible, it would appear very much as those objects that have been called spirits by those who claim to have seen them.

I do not mean to insinuate by this, however, that this biological body is the spiritual body, that it is

separable from the physical body, or that it is ever discernible by the human eye. I simply mean that it is an invisible, phosphorescent luminous substance, and that if we had the eyes to see such a substance, we would see that which in appearance would seem much like what people call a spirit. This is of so much importance that I think it necessary to dwell upon the point for a moment.

The evidence that this is a luminous body lies in the fact that all bioplasm is phosphorescent, and that its very activity consists in illumination. We have a demonstration of this in the minuter forms of life; for instance, the firefly, which illuminates the marsh fields and the low lands in the dusk of the summer evening. It is simply a phosphorescent manifestation of the living substance that we call bioplasm. The long brilliant light which we see frequently upon the ocean waves is caused by a vast accumulation of minute phosphorescent animals, the emission of light from whose bodies is of the same nature as I am describing. As Manaceine says ("Dreams," p. 236): "The emission of light is one of the properties of protoplasm. Phosphorus enters largely into the composition of the human body, being present as phosphates in the bones and other tissues. As oxygen is being constantly conveyed to the phosphoretted tissues, light will certainly be generated.* It would be interesting to know if a microphotograph of the circulation could be taken

* "Many of the fungi are self-luminous, probably from phosphorus contained in their tissues. One example cited by Cooke was reported by a traveler in Australia. A large

after long exposure in darkness with a very sensitive plate." Here the author makes an interesting insinuation of the possibility which I have already indicated in my previous discourse. The time may come when, indeed, we will be able, by certain new appliances, to discern this invisible and biological body because of its luminousness, so that we will see it as we now see the human body, or photograph it as existing invisible objects are photographed by the Roentgen ray.

This may seem almost a startling scientific proposition, but there can scarcely be a doubt that we are on the verge of a marvelous revelation in this direction.

Meanwhile, associated with this fact is that of the

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specimen of an Agaric, sixteen inches in diameter, was hung up in a sitting-room, where it gave light for four or five nights, till it dried up. . . . Many of the fungi contained a milky juice and when the flesh is cut or bruised, and this juice exposed to the air, its color turns to a dull livid green."—"The Dynamic Theory," by Alexander, p. 204.

"The most striking exhibition of phosphorescence in living things is found in the ocean, especially in the warmer climates. . . . It is said that the light emitted by these insects is so brilliant that two or three of them will light a medium-sized room. . . . When the water is agitated, as by the passage of a vessel, its whole pathway is illuminated by millions of little incandescent lamps, carried by as many millions of living animaculæ. . . . Men have been able to read large print by the light of agitated sea water, and to tell the time of night by a watch. In all probability these living animal forms that are able to emit light have the power to exude a substance similar to phosphorus, which emits light by a slow

impression which the psychological experiences produce upon the living substance of the body. We now know that every thought, sensation, emotion, and other psychical experience, is physically imprinted upon the minute cells of the nervous system; that they leave permanent tracings in these cells, which some authors denominate as "scars," and that what we call our memory is but the restoration to our consciousness of the same impression which was made by the original experience upon the specific cells which entered into that state of consciousness.

It will be seen, then, that the infinite experiences of our mind are written over and over again upon the minute cells of the invisible body; especially the cells of the brain and nervous system. Whenever a

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oxidation when it comes in contact with air and water."—Gray's "Nature Miracles," Vol. 2, pp. 207, 208.

Even more wonderful illustrations of the existence of the phosphorescent animals have been given by travelers. "The common earth-worm, according to Mr. Holder, is sometimes luminous. He says: 'One of the most brilliant displays of animal phosphorescence I have observed came from such a source. . . . In passing through on orange-grove one rainy night in Southern California, I kicked aside a large clump of earth when, to all intents and purposes, a mass of molten metal went flying in all directions, affording an unusual display. The cause of the light was a single earth-worm, possibly two, not over two inches in length. The luminous matter was exuding from them and was permeating the surrounding soil, rendering it phosphorescent. The light-emitting mucus came off upon my hands, and the light lasted several seconds, gradually fading away.'"—*Literary Digest*, September 29, 1900.

state of consciousness arises out of a forgotten past, it is as if that which had been erased from the cells were suddenly restored.

This physical condition may be illustrated by what is known as a palimpsest. Many ages ago, when paper was a rarity and manuscripts were written upon parchment and carefully confined by the custodians of libraries, it was found necessary to use the same parchment over and over for various different writings. It was customary, therefore, to erase the original writings upon these parchments, and then to write, once more, fresh matter upon the surface. Many of these parchments were finally discovered, and to the curious eyes of scholars revealed faint ghostlike figures beneath the surface of the clearer characters. They began to suspect that there might be writings buried beneath the surface, and in the course of time it was discovered that by washing the parchments with a chemical solution, the writing which appeared so vague and ghostlike was resurrected, and thus were the original writings restored.

This illustrates precisely what occurs in the physiological cells of the body when an infinite series of impressions is made. Each series seems to be buried beneath the other, and lost in the oblivion of our unconscious selves. At times when we are aroused by an awakening situation, and the conditions are favorable, those forgotten and faded impressions are suddenly restored, and what would appear as a mere scar upon the cell, becomes at last a firm and palpable

figure, and one recalls that which had been perhaps for years absent from one's consciousness.

In short, this whole biological body; *i.e.*, the cellular substance of the physical system, constitutes what might be called the cylinder (comparing it with a phonograph), that receives the continuous impressions of the mind upon it. When once more these impressions pass through the mind, they are restored, as when we introduce an old cylinder into the phonograph we restore the sounds that had been lost.

From this statement, regarding the psychical effects upon the biological body, we are led at once to the consideration of what is called the unconscious self. All these physical registrations are really the buried expressions of the normal consciousness which remain in a state of oblivion until they are once more lifted above the threshold, from the unconsciousness into which they have sunk.

There are many people who question the reality of the unconscious self. It has been usually consigned to the limbo of mere speculation and vague supposition; but of late years the profounder and more scientific psychologists have reached the emphatic conclusion that the Unconscious is as distinctly a part of the human being as is the Conscious; that the Unconscious may really be regarded as the receptacle, continually registering the impressions of the normal consciousness; and that, as these impressions sink into this reservoir, they pass out of the normal mind, but may be restored, under peculiar conditions, such as in dreams, or in

moments of excitement, or certain extraordinary activities which seem to arouse them.

In order that my statments may not seem to be purely personal, and without authentic corroboration, I will quote a few authors who distinctly emphasize my idea.

Mr. Maudsley, in his celebrated work, "Mind and Body," says: "The preconscious activity of mind, and the conscious activity of mind, which may perhaps now be deemed to be established, are surely facts of which the most ardent introspective psychologist must admit that self-consciousness can give us no account."

Another celebrated author, Mr. Bastian, says: "Unconscious mental modifications do undoubtedly exist; that is, real mental actions, which, though they do not reveal themselves in consciousness, seem to be in all other respects similar to those which do manifest themselves."

That is, this author emphatically asserts that mental modifications—modifications, namely, which occur in the mind, consequently affecting the biological body to which I have referred—are continually developing in our experiences, of which we seem to be wholly ignorant.

Another celebrated author, M. Ribot, says that there are innumerable nerve activities which have no accompanying psychic complement; that only a very limited number of physical or nerve activities resolve themselves into consciousness. Expressed in his own words, he says: "Though psychic activity always im-

plies nerve activity, conversely it is not true that nerve activity always implies psychic activity."

This author insinuates that there may be innumerable nerve activities which have no reflex registration in the psychic consciousness; but that, on the contrary, every mental experience which we have, is necessarily registered somewhere in the physical organism, showing that while the nerve activities may be continually exercised and the psychical activities be unaffected by them, never can we have a mental experience unless such is registered in the nervous organism. Now, every one of those psychic activities, which is thus registered in the nervous organism, is a secret increment of the unconscious self. Those registrations lie buried in the physical organism; they are the physical basis of the unconscious self; and unconsciousness is restored to consciousness, and finds its intelligent expression when these nerve activities are once again aroused, and excite the psychic activities of which they are the complement.

M. Ribot may, however, be mistaken, as I think I shall be able to prove further on, when he says that there are innumerable nerve activities which do not have any reflex psychic response. For, as we shall see, the phenomena of hypnotism have demonstrated that there is, although unconsciously, a psychic response to each nerve activity, and when the hypnotic subject is restored to consciousness he is able to recall those experiences of which normally he was wholly unaware.

We find, then, that the realm of the Unconscious

is that abode wherein live all the thoughts, the ideas, the emotions, which the mind has ever engendered. In short, it is the permanent dwelling-place of every experience of the human being. However lost such experience may be to the temporary, the normal or the transitory consciousness, it is never lost to the Unconscious. There it abides, inerasable, inextinguishable and enduring, as the human being himself.

I will once more enforce this idea with some remarks which I have taken from Professor Montgomery's work on the"Mind," Vol. II., page 212, where he says: "We are constantly aware that feelings emerge unsolicited by any previous mental state, directly from the dark womb of unconsciousness. Indeed, all our most vivid feelings are thus mystically derived; suddenly, a new irrelevant, unwilled, unlooked-for presence intrudes itself into consciousness. Some inscrutable power causes it to rise and enter the mental presence as a sensorial constituent."

Again, we have the authority of the distinguished author, Wundt, in his "Physiological Psychology," quoted in the "Unconscious Mind," by A. T. Schofield, page 112. He says: "The traditional opinion that consciousness is the entire field of the internal life cannot be accepted. Our conscious psychic acts are very distinct from one another . . . and observation itself necessarily conducts to unity in psychology. But the agent of this unity is outside of consciousness, which knows only the result of the work done in the unknown laboratory beneath it. Suddenly a new thought springs into being. Ultimate analysis of

psychic processes shows that the Unconscious is the theater of the most important mental phenomena. *The Conscious is always conditional upon the Unconscious.*"

We see, then, that we are on thoroughly scientific ground when we talk of the Unconscious Self. But because this has been the long-neglected section of the human being, and only until recently its existence has been admitted as a scientific verity, it becomes necessary to analyze and examine it further, in order that we may see how, if at all, it may differ from the normal consciousness. I shall undertake to show that its history, its powers, its activities, and its possibilities, are easily distinguishable from those of the normal consciousness, and that when we make and understand this distinction, we shall see that we have reached a division of the human self which seems to be permanent and indestructible, and whose experiences seem to justify the logical conclusion of the soul's existence and its immortality.*

In order to make myself clear with regard to this proposition, I shall examine all the senses through which we ordinarily become acquainted with the ex-

* "The Unconscious supplies every being in its instinct with what the body needs for self-preservation and for which its conscious thought does not suffice. The Unconscious preserves the species through sexual and maternal love, ennobles it through selection in sexual love, and conducts the human race historically, steadily to the goal of its greatest possible perfection. The Unconscious often guides men in their actions by hints and feelings, when they could not help themselves by conscious thought. The Unconscious furthers the

ternal world, and learn in what way these same senses are differently utilized by the unconscious self.

Examining, first, then, the sensation of sight, we know that in our normal experience we see only through the physical eye; we know that we are dependent upon rays of light, upon certain vibrations of the atmosphere, and upon what we ordinarily understand as normal conditions for the perception of physical objects through the ocular organ. I know that with my eyes shut I cannot see an object that stands before me, although upon my eyelids I receive vague impressions of the light of the day, and might be able to distinguish between night and day, or between a dark room and a lighted one. Other than that I would have no visual perception. But now the Unconscious Mind seems to operate in an exactly opposite direction. It seems to be capable of piercing opaque objects, of seeing without the rays of light, and, in short, of possessing such visual perception as is impossible to the normal physical eye.

A whole array of experiences might be given under this head to prove that my statement is correct. The somnambulist, who may be sound asleep, and who has

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Conscious thought by its inspirations in small as in great matters, and in mysticism guides mankind to the presentiment of higher, supersensible unities. The Unconscious makes men happy through the feeling for the beautiful and artistic. If we institute a comparison between the Conscious and the Unconscious, it is obvious that there is a sphere always reserved to the Unconscious, *because it remains forever inaccessible to the Conscious.*"—Hartmann, "Philosophy of the Unconscious," Vol II., p. 39.

no consciousness whatsoever of his physical activities, nevertheless walks with his eyes tightly closed, as well in the darkest night as in the brightest day, and unhaltingly proceeds to whatever destination he may desire; sees every object in the dark room as well, and perhaps better, than the normal eye when awake can see, and permits nothing whatsoever to interfere with his rational actions.

Now, what is it that sees under those conditions? We know very well it is not the eye; we know it is not one of the normal physical sensations that assists in this perception; it can be nothing else than that Unconscious Self, of which ordinarily we stand in ignorance, which seems *to be able to utilize the unrecognized registrations upon the nerve centers* and obey their bidding, howsoever the normal consciousness may be ignorant thereof.*

We have similar experiences in dreams, visions, reveries, and so on, when objects stand distinctly be-

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* At this juncture it will be profitable to introduce some highly scientific experiments made by French psychologists, that demonstrate the super-conscious activities of the so-called Unconscious in the function of the eyes. "After having determined experimentally the maximum distance at which the subject can read the largest letters of a series, we invite him to read certain smaller letters that are placed below the former. Naturally enough the subject is unable to do so; but, if at this instance, we slip a pencil into the anesthetic hand, we are able by the agency of the hand to induce automatic writing, and this writing *will produce precisely the letters which the subject is in vain trying to read.* . . . It is highly interesting to observe that at the very

fore us as realistic as in actual life, and yet which we know are not physical objects, but are simply born of our momentary sensations, and can be discerned only by that sub-conscious self which uses neither eye nor ear to acquaint itself with an external world. Hence, we are forced to conclude that the sense which we call sight is experienced by the unconscious self according to laws and processes that are certainly easily distinguished from those of the normal sense.

In like manner, we might speak of the senses of

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time the subject is repeatedly declaring that he does not see the letters, the anesthetic hand, *unknown to him*, writes out the letters one after the other. If, interrupting the experiment, we ask the subject to write of his own free will the letters of the printed series, *he will not be able to do so*, and when asked simply to draw what he sees, he will only produce a few zig-zag marks that have no meaning."

Let us further remark, that although the subject maintains that he sees nothing, the automatic, nevertheless, reproduces all the letters marked on the blackboard, with perfect regularity, beginning at the first and ending at the last. . . . "I was easily able to establish the fact that, after closing the left eye of the subject, and putting into his anesthetic hand, without his knowledge, a pencil, the automatic writing was brought to reproduce all the letters which we passed before the amaurotic eye. This amaurotic eye, accordingly, *did see*, notwithstanding its apparent blindness; in other words, the second consciousness was the one that saw; it had not been struck with blindness at the same time as the first consciousness. . . ." "We must accordingly suppose that during the experiment the second consciousness directs the line of sight, without the knowledge of the principal subject."—"On the Double Consciousness," by Alfred Binet (The Open Court Pub. Co.), pp. 32, 33, 35.

hearing, of touch, of smell and taste, and in every experience we can demonstrate that the unconscious *self* may exercise all these sensations without associating itself whatsoever with the nerve activities or the physical sense organs. I hardly think, however, it is necessary for me to dwell upon this, for these phenomena are so well understood in this progressive age, that probably none who reads this paper will dispute my statements.

But one very remarkable fact upon which we must dwell is this, in so much as it is a point that bears specifically upon the argument in hand. The fact to which I refer is that the *Unconscious Self is always active inversely to the activity of the conscious self;* i. e., when one is normally awake, fully realizing his ordinary conditions, his relations to the external world, etc., then his unconscious nature lies subsident, and he is wholly oblivious of it; but when the normal faculties are partially suppressed, or wholly paralyzed, then the powers of the unconscious self are aroused and awaken into activity; in fact, there seems to be an exact ratio of activity expressed between the two selves, the Conscious and the Unconscious. For the deeper the sleep, the more certain seem to be the wakenings of unconsciousness. When a hypnotic subject is put to sleep, the phenomena which can be demonstrated through him by the operator will usually depend upon the depth of the sleep into which he can be thrown; if the sleep is but slight, the strong probability is that he will still be vaguely conscious of himself, and be so able to exercise his normal will that

he may refuse to obey the dictates of the operator; and, hence, the experiment will be partially a failure.

Dr. Boris Sidis, in his work on the "Psychology of Suggestion," makes a very strong point of this. In numerous cases he proves how it was necessary to hypnotize a subject again and again, usually not succeeding in such cases until the third hypnotisation; at which time only was the will of the subject sufficiently suppressed and his normal faculties submerged to enable the operator to arouse the Unconscious Self and bring it into activity. This fact bears, as we shall see in our final conclusion, very strongly upon the argument for immortality which I am proposing, and it is a point which should not be forgotten in the general survey of the proposition which I am advancing.

Another fact which recent experiences have brought to light, and which is likewise seriously related to the problem we are discussing, is that the normal consciousness may not only be wholly suppressed (as in conditions of hypnotization), and the unconsciousness be aroused, but even the unconscious self may seem, for the time being, to be annihilated, and a wholly different personality injected, as it were, into the organism of an individual. There are numerous cases of this kind, where men who have lived ordinary lives without manifesting any eccentricities or extraordinary mental qualities have, under accidental conditions, seemed wholly to have lost their personalities and become possessed of characteristics and of life histories totally diverse from their own, and which they in their normal states could by no possibility recognize. We

have the famous case, for instance, of Mr. Ansel Bourne, which is recorded in the proceedings of the Psychical Research Society, which is so interesting and to the point that I will reproduce it here.*

Mr. Bourne was an evangelist, operating in the New England States. He was a highly respectable and successful man in his business. He had never seemed to manifest any unusual eccentricities, or such characteristics as would attract the curiosity of observers. Mr. Bourne left the field of his activities temporarily, went to the bank, drew a check to pay off the interest on his mortgage. As soon as he received the money he put it in his pocket, and instead of returning to his field of labor, wandered away to New York, and then into Pennsylvania, until he settled in Norristown, in that State. He met a certain gentleman, from whom he rented a store, saying that he was a merchant, and desired to put in a stock of goods and dispose of them. He did so; he passed under the name of Mr. A. J. Brown. He seemed to have always been Mr. A. J. Brown; he knew his history, acted, talked and lived as if he had always been that individual. He conducted his business as an experienced hand, as if he had always been at it throughout his life. He did not arouse the suspicions of his landlord in any manner whatsoever until after he had been there several months. Then, one morning, he awoke at five o'clock, and coming to himself once more as Ansel Bourne, was horrified, not knowing

*See, also, "Telepathy," by R. Osgood Mason, M.D., p. 119.

where he was, or what he was doing. He rushed into his landlord's apartments, which were adjoining, and asked him what was the day and month of the year. The gentleman said it was the 14th.

"Well, how can it be the 14th? Does time run backward?"

"Oh, no," he replied, "not at all."

"Well," he said, "where am I?"

"You are in Norristown, Pennsylvania."

"How did I come here?" I do not understand this. I was not aware that I was living in Norristown, Pennsylvania.

The landlord assured him he was.

But he said: "When I left home, the last day I remember anything about is the 17th of the month. How, then, can it be the 14th of the month now?"

"The 17th of what month?"

Mr. Bourne replied: "The 17th of January."

"Why," he said, "this is the 14th of March."

"Well, then, where have I been all this time? I do not know myself."

The landlord said, "Are you not Mr. A. J. Brown?"

"A. J. Brown? Why, no. I never heard of such a man. Ansel Bourne is my name."

The landlord suspected him of insanity, and immediately telegraphed to the place Mr. Bourne said was his home. He received a reply that it was correct; that Mr. Bourne had disappeared from his home very suddenly on the 17th of January. His friends came and took him back, and he remained thereafter in his normal consciousness. He was unable, however, to

tell anything about his experience during the several months of his wanderings. Afterwards his case was put in the hands of members of the Psychical Research Society. They were able to hypnotize him and restored his unconsciouness, so that he was able to reveal in that state everything he had passed through during his temporary aberration.

In this case we have the experience of the complete subsidence of both the conscious and the unconscious self, and the introduction of an abnormal and new personality, whose origin seems inexplicable.*

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*By means of the so-called method of distraction, Professor Janet entered into direct communication with the secondary self of his subject, Louise.

"Do you hear me?" asked Professor Janet.

Ans.—"No."

J.—"But in order to answer one must hear?"

Ans.—"Certainly."

J.—"Then how do you manage?"

Ans.—"I do not know."

J.—"There must be somebody who hears me?"

Ans.—"Yes."

J.—"Who is it?"

Ans.—"Not Louise."

J.—"Oh, some one else. Shall we call her Blanche?"

Ans.—"Yes, Blanche."

J.—"Well, then, Blanche, do you hear me?"

Ans.—"Yes."

This name, however, had soon to be given up on account of disagreeable associations in the mind of Louise, and another name substituted. When Louise was shown the paper with the name of Blanche, which she had written, she was angry and tried to tear it up.

J.—"What name will you have?"

Further on I shall hope to be able to show what the origin of these duplicate personalities may be, and how the individuality is never lost, for that can always be restored, either in normal situations or by extraordinary efforts, such as hynotism and trance conditions.

Ans.—"No name."

J.—"You must; it will be more convenient."

Ans.—"Well, then, Adrienne."

Here, a strange situation was introduced. It was proved that Adrienne knew of things of which Louise was wholly unconscious. A special terror of Louise, which was evidenced in wild exclamations during her hysterical fits, was somehow connected with hidden men. She could not, however, recollect the incident. But Adrienne, when questioned, was able to describe the details.

Louise was thrown into catalepsy; then Janet clinched her left hand (she began at once to strike out), put a pencil in her right hand, and said "Adrienne, what are you doing?" The left hand continued to strike and the face to look rage, while the right hand wrote, "I am furious." "With whom?" "With F." "Why?" "I do not know, but I am very angry." Janet then unclinched the subject's left hand and put it gently to her lips. It began to blow kisses and the face smiled. "Adrienne, are you still angry?" "No, that is over." "And now?" "O, I am happy." "And Louise?" *"She knows nothing; she is asleep."*—"Alterations of Personality," by Binet, p. 147. Also, "Psychology of Suggestion," by Boris Sidis, p. 130.

When Leonie B. (a subject of M. Janet) is hypnotized, her personal character undergoes a radical change. Now, Leontine (that is Leonie hypnotized) was told by Janet that after the trance was over and Leonie had resumed her ordinary life, she (Leontine), was to take off her apron and then to tie it on again. Leonie was then awakened and conducted by Janet to the door, talking with her usual respectful

For Prof. Bernheim, the great hypnotist of France, reminds us that: "A somnambulist forgets when he awakes from being hypnotized all he does or says, but can be made to recall and repeat all by the simple assertion of the hypnotist that he can do so, and this without again falling asleep." Hence, we see that the unconscious condition may be brought into the conscious state even without the individual being put to sleep; i. e., when once subjected to hypnotism or artificially developed into a somnambulist, the subject may afterwards recall and repeat all his experiences during his unconscious condition, and may unite the two sections of himself, as it were (the conscious and the unconscious) when his normal mind is fully restored.*

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gravity. Meantime her hand untied the apron and took it off. Janet called Leonie's attention to the loosened apron. "Why, my apron is coming off!" she exclaimed, and with full waking consciousness tied it on again. She then continued to talk. At Leontine's prompting the hands once more began their work, and the apron was taken off again, and again replaced, this time without Leonie's attention having been directed to the matter at all. . . . Next day Professor Richet hypnotized Leonie again, and presently Leontine, as usual, emerged. "Well," she said, "I did what you told me to do yesterday." *How stupid the other one looked while I took off her apron!* Why did you tell her that the apron was falling off. I had to do the work all over again."—Binet and Sidis, as above.

*"From the foregoing we perceive that the separation of the two consciousnesses does not interrupt all communications between them. The associations of ideas, of images, perceptions, and movements—that is, of all that pertains to the

All this goes to prove that, while there may be a variety of personalities, as such, which may either develop in or possess an individual, the individual himself is sui generis, always one and the same.

The above quotation of Bernheim also further proves that the activity of the Unconscious is never silenced; the Unconscious is always awake, always active, and though it may seem to be a paradox, we may say it is always conscious, for at any time that which passes in the Unconscious, and of which the normal mind has no knowledge, may be restored to the normal mind, so that one may look, as it were, in a mirror and see the very reflection of one's self, of whose appearance he had not before been aware.

Because of the difficulty of explaining dual personalities, such experiences have been denied by certain psychologists, and all that is now recognized as the subliminal self is rejected wholly from their speculation. But, in my judgment, there is no serious psychological problem that is involved in contemplating the possibility of one individual being possessed of several personalities at different times. We need but remember that the consciousness is made up of an infinite number of experiences, that each individual experience is a state of consciousness, and that while

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sphere of the lower psychology—is preserved nearly intact; and, hence, an idea in the first consciousness provokes a movement in the second, and inversely, a sensation perceived by the second consciousness can awaken an idea in the first consciousness."— "On the Double Consciousness," Binet, page 29.

we are limited to that one state of consciousness, our entire personality consists of but that alone. Where there are a number of such experiences associated, which remain in permanent connection, those united experiences constitute, for the time being, a fixed personality. Now, we are conscious normally of a certain series of our experiences, united, for the time being, to our self realization, but there is an infinite quantity of experiences through which we have passed, and which are registered in our physical bodies, that are lost to our realization.

It is conceivable that at certain times those experiences which have passed away might, by the law of association, be momentarily reunited with the conscious activity to the exclusion of all other experiences. We have this condition, we may say, in our dreams, when a certain experience of the day or of the past week, or of a preceding year, suddenly obtrudes itself, and instantly there is associated with that experience a series of possibilities which are revealed as realities in our dreams. However absurd or impossible such associations may be in point of fact, they seem real in the dream, and in that condition we assume a personality possessed of abnormal characteristics which we would be utterly unable to assume in our normal states.

Now, that dream experience is in point of fact a dream-personality, as effectively and logically as our actual personalities are real experiences of the soul. In truth, we possess the possibility of not only one or two personalities, but of infinite personalities, inso-

much as our buried experiences may assume an infinite number of associations.*

The reason that we ordinarily maintain a normal and commonplace consciousness is because by the law of association we carry along in our realization a fixed train of experiences, all of which are logically associated with our normal modes of thinking. When we fall into abnormal conditions, such as in dreams, reveries, fevers, trance states, etc., then we attract a wholly unusual and extraordinary train of lost experiences, or, (through the imagination), of possible experiences. These, being attached to our temporary consciousness, constitute a momentary and abnormal personality.

*In this analysis I have given the psychological elements which enter into the formations of temporary and persistent personalities. Dr. Boris Sidis, in his work, "The Psychology of Suggestion," pp. 208-212, gives the physiological analysis which, I think, would be profitable to reproduce here. He says: "The mental process of association and aggregation of psychic contents in the synthesis of moment-consciousness, and the including of the moment-consciousness in synthesis of higher and higher unities can be expressed in physiological terms of cellular activity." He then outlines the nerve system, reminding us that the cells are not anatomically connected, and associate only functionally, through physiological contact, forming into groups, systems, communities, clusters, constellations in the respective order traced. He practically proves that each cell is organized into an individual and unique life, with its own consciousness, memory, etc., and that the multiplicity of cells associate into the so-called systems, constellations, etc., according to the duration of the psychic experiences whose impressions they receive. "The simpler, the less complicated, a group of cells is, and the longer and more fre-

Just as a magnet will draw together certain portions of steel fillings that may be beneath it, and attach them to the ends of the magnet, so by the law of association the mind may attach to either an ordinary or an extraordinary experience a whole series of mental states which, coming into this momentary association, may awaken an extraordinary state of consciousness and develop an unusual and unknown personality.

We see how, under these circumstances, it might be possible for a Molly Fancher to be possessed of four so-called different personalities who control her at different times, because she is for the time being lost in a certain state of mind which calls up a fixed train of experiences that are logically associated with

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quent their fine processes come in contact, *the greater is the tendency of that group to form permanent relations; we* may, therefore, say that the organization of a system or constellation of cells is in proportion to the duration and frequency of their associative activity."

He then proceeds to show how these time-aggregates of psychic elements, expressed in cellular associations, may be dissipated into their several primary conditions, by the influence of psychic stimuli playing upon them. "Association fibers combining the highest constellations are the first to give way; they are the latest to arrive in the course of psycho-physical evolution, they are the most unstable, the least organized, and are also the first to succumb to the process of dissolution."

The above is a physiological reason for the rapid dissolution of dream forms, apparitions, and the visions of day-reveries. It also explains how numerous personalities may grow up in the organization of a single individual, as in the illustrations above given.

that temporary mental state. While she is in this mental condition, naturally, she is diverted from her normal consciousness, because all logical associations of her ideas are attached to the one conception which, for the time being, possesses her. In like manner in dreams, we do not know ourselves, as we really are, but conceive ourselves to be possessed of unusual qualities and powers, sometimes entering into other personalities, and for the time being affected by their capacities and qualifications.

Now, such diversity of personalities might for a moment seem to indicate the obliteration of the soul; or that what we call the soul is but the psychical correlate of physical activities. In cases of fever or other abnormal physical conditions, the mind seems to be but a reflex of the intense cellular activities of the body, the thoughts that are aroused in such conditions seem to be but the resultant of the physical friction which exists in the tissues of the body. On this theory Ribot, it would seem, rests his argument that there are innumerable nerve activities which do not always have a psychical complement; i. e., that the nerves are often aroused to experience certain sensations which do not find a reflex expression in the mental consciousness. Ribot here overlooks the point that those very physical conditions may be recalled to the consciousness, if the individual can be thrown into a hypnotic state and forced to submit to the dictates of the operator, who will command him to see and to reveal what his unconscious experiences were at the time.

This was the error which Prof. Tyndal fell into

when he narrated his experience in the Belfast address, to the effect that he had been subjected to the concussion of a vast number of electrical volts, sufficient under certain conditions to have killed him. He was thrown into a state of unconsciousness, and remained in that state for several days. He asked the question: "Where, then, was I—my soul, during this period of oblivion?" Prof. Tyndal lived before the science of hypnotism was recognized as respectable in the medical world. But we now know that it might have been possible to subject him to hypnotic control, and to have forced his unconscious self to have revealed what its experiences were during this period of oblivion, resulting from the electrical concussion.

As a modern illustration in point and one which emphatically demonstrates the fact that the hiatus in consciousness caused by accident may be restored by psychological methods, I will here reproduce the remarkable case of Rev. Thomas C. Hanna, a patient of Dr. Boris Sidis, a full account of which is given in his "The Psychology of Suggestion," chapter 22:

"On April 15, 1897, Mr. Hanna met with an accident, and was picked up in a state of utter unconsciousness. When the patient came to himself he was like one just born. He had lost all knowledge acquired by him from the date of his birth up to the time of his accident. He lost all power of voluntary activity, *knew nothing of his own personality,* and could not recognize persons or objects. He had in fact no idea whatever of the external world. . . Nothing remained of his past life, not even a meaningless word,

syllable or articulate sound. He was totally deprived of speech. The conversation of the people surrounding him was to him nothing but sounds, without meaning. He had lost all sense of order in his response to the calls of Nature. The patient was smitten with full mental blindness."

Notwithstanding this terrible condition of utter oblivion, by a process which Mr. Sidis invented, he finally restored the ordinary consciousness of this patient and made him a sound man again. But the point in the case for us especially to observe and emphasize is that during the periods of hybnoidization (not full hypnosis) his former life returned to him, incident by incident, until all his past was restored to his normal memory. Nothing whatever, not even the minutest event was lost out of his sub-consciousness. There everything that had transpired within his experience was indelibly and unobliterably registered. This case alone more than answers Dr. Tyndal's query as to what became of his soul during the period of obscuration which befell him because of his accident. Nothing was lost to Dr. Tyndal; what was lost was merely the association in the memory-consciousness of Dr. Tyndal, which had been dissipated because of the dissolution of the aggregation of the nerve cells by the electrical concussion.

All such experiences go to prove that while there may be a variety of personalities that may develop in any life, nevertheless, the original persistent individuality can never be extracted from the human being. No matter if one in his dreams, in diseases, in states of

hypnotism, or in accident, acquire a variety of apparent personalities which, for the time being, may possess him, there is the concatinating chain of individuality that binds together all these personalities, and which in itself is indestructible.

This is the marvelous fact—that the ego, or I, the self-consciousness, the eternally self-realizing, is always back of these various and seemingly contradictory experiences; in the end, man always knows himself. I always know that I am I, you always know that you are you. Although seemingly for a time being the I and the you are obliterated, science has now been able to prove to us that it is not an obliteration in fact; it is only a temporary subsidence, and if the proper conditions or appliances or manipulations can be brought to play, the ego that has been for the time being submerged, may be again aroused, and once more gather its innumerable experiences through whatsoever personalities they may have been manifested.

I might illustrate this point by a number of beads hung upon a string. When they are all attached to a single string, bound together, they form an individual necklace, but each bead in itself constitutes a separate entity, being merely associated for the time being with the rest of the beads in order to form the necklace. Now, each one of these beads stands related to the necklace as each individual experience in a man stands related to his whole individuality. Cut the string, and the beads will be scattered upon the floor; so, for the time being, suppress the consciousness of the indi-

vidual, and his manifold experiences may be scattered into diverse and exceptional relations, or may seem to be wholly separated from his individuality, just as the beads might be gathered up again, but in separate sections, and each section might be strung upon a separate string. Now, all those several strings would be composed of the same beads that constituted the original necklace. So, the diverse experiences of an individual may be separated from the original ego, and under certain peculiar conditions, temporarily associated with other experiences which seem to wholly obliterate the original individual; but just as we can gather together all those beads and attach them at last to the single string of which the original necklace consisted, so we may gather together all the diverse experiences and multiplex personalities through which the individual has passed and remerge them into the persistent and indestructible individual self. In short the string is the individual, and as the string holds together all the beads, so the individual holds together all the diverse experiences and personalities through which it may pass. Here rests our hope, here is the foundation of our science: it is the indestructibleness of the individual; the individual is indivisible. He is always one and the same, himself, and inseparable.

Now, this thought seems to have been almost wholly lost sight of by many psychologists, for they regard merely the personalities themselves, and seeing that they constitute separate lives, variously associated with one individuality, it occurred to them that the individual was not a reality at all, but that he was

merely the accident of the associated personalities. On the contrary, in point of fact, the individual is the basis and sub-stratum of the personalities; he exists before his personal experiences; his personality is temporary and transitory; himself, the individual, is permanent and eternal.*

In view of the fact that the consciousness is undoubtedly the seat of the soul, and that it really never ceases in our normal experiences, although at times it seems to, rests the scientific hope of the soul's continued existence after death. We saw, in the argument which was advanced for the Physical Basis of the Soul the probability of the continued existence of the invisible body, which was constructed out of immaterial forces, that build up the interior biological organism; and as we then asserted, while there was no present proof of the form or qualities of which such

*May we, then, go a step further and assert that the mental compound which constitutes the ego is constructed from these elements? On this point recent researches have thrown some light, and although it is negative, yet it is none the less valuable. It is this: that the genesis of a personality cannot be explained by the association of ideas. Subjects who divide their existence between two different mental conditions may in one of these conditions be utterly unable to remember events that are connected with the other. The loss of memory is so absolute that a person seen during one of these conditions is not even recognized in the second, and the physician must be twice introduced in order to be known by both personalities. It is enough to say that the usual magnetism of memory ceases to operate.

"Under slightly different conditions of experiment several psychological instances co-existed in the same individual, and

an organism might be composed, yet the fact that these immaterial forces were indestructible, that they required a frame in which to manifest their energies, and that they had built up within the physical body an internal, invisible body, which was not subject to dissolution or chemical analysis, left the broad field for the speculative possibility, if not the positive assurance, of these immaterial forces continuing to hold together an invisible organism, through which they might operate, even after the physical body had been dissolved. *When now we couple with that argument the assurance of the existence of the unconscious self, which has persistently registered its experiences in this biological body, and the fact that this unconscious self is permanent, indestructible and always active, we seem to have found both the physical and the psychological basis on which to rest a satisfactory argument*

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ideas belonging to one of the consciousnesses suggest other ideas to the other consciousness. This fact of experiment shows us in a new light the inadequacy of association to explain the formation of synthesis. . . . The intellect is not composed entirely of an automatism of ideas and movements, since just where this automatism goes on most regularly, consciousness may stop and personality find its limitation.

"In short, the same individual may have a plurality of memories, a plurality of consciousnesses, and a plurality of personalities, and each of these memories, consciousnesses, and personalities knows only what happens within its own limits. Outside of our consciousnesses may occur conscious thoughts in us that we are not aware of."—From "Alterations of Personality," p. 352, by Binet.

for the soul's existence both here and beyond the grave.

There is much that may cause us to rejoice in such a scientific postulate, insomuch as all humanity instinctively desires to continue existence beyond the grave, if such existence can be shown to be subjected to rational and progressive laws, that awaken the possibility of higher and sublimer unfoldments in one's conscious realizations.

To live forever in misery would be the despair of the human race. An immortality founded upon such a dogma is not only debasing, outrageous and unintelligent, but a libel upon that Power, be it an intelligent God or a mere active force, which has brought the universe into being, and evolved the glory of the human mind.

Man loves to live when life is full of hope, power and attainment; to live and suffer is worse than not to live at all, if such suffering shall not evolve into some final peace and satisfaction.

One fears not mere death of itself, if that were all there were of such experience. The mere dissolution into the dull clods of earth from which our bodies were produced is not so shocking or repulsive, if we could but know that with such dissolution the consciousness itself shall cease forever.

Eternal sleep has its comforts, even in contrast with the transporting joy that an immortal consciousness awakens. To sleep forever and to be at peace is far better than forever to be awake and be in misery.

There are those who shudder at the very thought of death, and all mankind from time immemorial has instinctively recoiled from its cold and clammy touch.

Death is a fearful thing.
To die and go we know not where;
To lie in cold obstruction and to rot.
This sensible warm motion to become
A kneaded clod; and the delightful spirit
To bathe in fiery floods or to reside
In thrilling regions of thick-ribbed ice.
To be imprisoned in the viewless winds
And blown with violence round about
The pendant world; or, to be worse than worst of those—
That lawless and uncertain thoughts
Imagine howling; 'tis too horrible!
The weariest and most loathed worldly life
Which age, ache, penury, and imprisonment
Can lay on Nature is a paradise
To what we fear of Death.

Such dread of death, however, is irrational to one who holds a logical conception of the universe. Life is everywhere; death is to real being what sleep is to normal activity. We know when we are asleep, because we are ordinarily awake, and we think of death simply as a possibility contrasted with the reality of life. We know of death because we cannot wake ourselves from that temporary cessation of normal activities which conditions the body when its physical mechanism ceases to operate. But because we have thus far been acquainted only with the physical mechanism, or mere body, and have not even suspected that interior body of which I spoke (which to us seems to have no existence), therefore, we cannot realize how

we may still continue to act in another though invisible body, when it has been permanently separated from the body we daily recognize.

We simply shrink from the possibility of an experience through which we have not yet passed. But, if we are every moment abiding in the unconscious capacities of the invisible, vital-body, which constitutes our real living selves, yet think we live in this external body, which is not at all alive, but is every moment dying—then why cannot we conceive how, when this dying body is for ever dead and dissolved in the primary dust from which it came, we may still continue to live in that now invisible body, which then may be as visible to our spiritual perception as is this physical body to our present senses.

If we can now live in the seemingly self-contradictory condition of having a body without knowing it, then why cannot we, beyond the grave, possibly live in a body of which we may now be unconscious, but which may then be normally realized by us.

There is in this supposition at least nothing illogical, nothing contradictory to the physical conditions in which we now abide; nothing that the laws or processes of chemistry can disprove; nothing that any operations of the universe stand in contradiction of.

As we have evolved from an invisible, interior body into a visible exterior body, and as the internal body still continues to exist, although we ourselves are unconscious of it, so when the external body has dissolved forever, we may still continue to exist in that invisible body, or in some similar one, which the same

spiritual forces may develop. Then we shall become conscious of the invisible body as we are now of the visible.

There is indeed much beauty and genuine logic in that very quaint epitaph which Benjamin Franklin indited to be inscribed upon his tombstone, but which afterwards he requested not to be done, and left it as a literary legacy to the brotherhood of kindred minds. These beautiful, pathetic and quaint words, expressing his hope of immortality, were born out of his own experience as a typesetter and practical workman:

The Body
of
Benjamin Frankin
Printer
(Like the cover of an old book
Its contents torn out
And stript of its lettering and gilding)
Lies here food for worms.
But the work shall not be lost
For it will appear once more
In a new and more elegant edition
Revised and corrected
by
The Author.*

And such indeed is the life of each of us. It is but one small book, writ large with each day's experience, its passions and its hopes, its joys and fears. We know not to-day what we were yesterday; the vast compass of our thoughts and our aspirations, yea, even our conscious experiences, are now lost to our memories,

* See "Immortality," by Paul Carus.

and but one slight section of the twenty-four hours of activity remains with us. What, then, is this life through which we are passing? How little of it all remains with us! How small a portion of the infinite series of experiences can we call our own!

We are less ourselves than we are others with whom we associate; for that larger part of us is not ourselves at all; it is lost, lost, and yet not lost forever, because it is indited on the registry of that Infinite Self which constitutes our unconsciousness, but which is the great memorial sheet wherein we live and move and have our being—that registry whose leaves are indestructible, whose writings are indelible, and which, in their mutual associations, constitute that Great Book which we call our life.

Some day, doubtless, although these leaves shall have been torn from between the coverlids and scattered throughout the vast expanse of space, they shall again be gathered and bound within, if not the old coverlids, at least some other. These may be brighter, more beautiful and more magnificently carved, nevertheless they shall reveal to us our forgotten selves, and we that had been lost shall be restored.

As the quaint philosopher says, the old book will be seen again, "its contents torn out, stript of its lettering and gilding," but "revised and corrected" by each author, who survives the musty volume of time to enjoy the pages that shall never see destruction.

Thus, then, have we stated both the scientific and the philosophical postulate upon which the hope of im-

mortality rests, and upon which we base the proof of our soul's existence.

But that the thread of thought may be firmly held by the reader, and that the argument may stand out strongly before his mind, I will present the following series of logically related propositions, which will, I trust, satisfactorily demonstrate the theory on which I have been building my argument:

First: Man is possessed of unconscious mind. It is the real, permanent, constant, identical and omniscient self; absolutely all that is experienced in the normal consciousness is there inerasably registered; and likewise therein are inscribed all the unconscious experiences of the body which may sometime be transmuted into consciousness.*

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*Boris Sidis says: "The facts of past hypnotic negative hallucinations or of systematized anesthesia still further reveal the presence of the sub-conscious self below the upper waking consciousness." Many experiments made by Bernheim and Liegeois, and Binet and Fere, have quite substantially demonstrated this proposition. M. Liegeois, after experimenting on a number of peculiar cases, in which he caused the two personalities of the upper and the lower self in the same individual to be wholly separated, makes this comment, as follows: "During the negative hallucinations the subject sees what he does not seem to see, and hears what he does not seem to hear. Two personalities or selves exist within him. A sub-conscious ego that sees and hears and a conscious ego that does not see or hear." As a further demonstration of the existence of the sub-conscious self, Boris Sidis says: "While the subject is in a hypnotic condition, we can suggest to him that on awakening he shall not remember anything, but when put to the automatic recorder he

Second: The activity of the unconscious mind, or the soul, is inverse to the activity of the normal or conscious mind. This statement is proven in the case of dreams, catalepsy and hysteria, as natural conditions, and in the artificial states of hypnotism and induced somnambulism. In these conditions, the activities of the unconscious mind of the patient or subject are increased in proportion as the normal activities of the body and mind are suppressed.* The deeper the hypnosis, the more wonderful the activities of the unconscious mind or soul; hence,

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shall be able to write everything that has taken place in a state of hypnosis. The subject is then awaked, but remembers nothing at all of what he has passed through while in the state of hypnotic trance. As soon, however, as he is put to the automatic recorder, the hand gives a fully revealed account of all the events. If now you ask the subject what it is that he has written, he stares at you in confusion: he knows nothing at all of the writing." This author concludes, with many others of distinction, who have experimented in this field of investigation, "that the sub-consciousness is not a mere unconscious physiological automatism, but a consciousness, a self in possession of memory, and even intelligence. Experiments and observations, however, go further to prove that this hidden intelligence may be of still higher organism; it may possess even some degree of self-consciousness; it may grow and develop."—"Psychology of Suggestion."

* "When the conscious mind is in abeyance, as in dreams or reverie, or artificially as in hypnotism or narcotism, the unconscious mind emerges from its obscurity, and impressions unconsciously formed upon the brain are seen and noticed for the first time; just as the receding tide lays bare the sands. In defective intellects, when the conscious mind is weak, the power of the sub-conscious is remarkably seen.

Third: If the unconscious, subliminal self is permanent, persistent, ever-active, all-knowing, ever remembering, and its activity is intensified inversely as the activity of the normal consciousness (i. e., as the conscious mind is suppressed, or paralyzed, the soul activities are intensified); then, naturally, when the body is completely paralyzed or dead, the soul activities will be most active, most alive.

Fourth: As we can discover no break in the soul activities, i. e., as the unconscious mind can never be found asleep or discontinued,* and as it is most alive

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Miss Martineau tells of an idiot who had his hands washed and his nails cut at 11.10 A.M., and who came of his own accord exactly at the same hour each day to have the operation, repeated, although he knew nothing consciously of time." —"The Unconscious Mind," A. T. Schofield, p. 92.

* "I have gathered a number of examples of mental activity in sleep, which give evidence of concentrated intellectual effort, such as continuous course of reasoning continued after waking; listening to a lengthy discourse, which must have been composed by the sleeper, reflecting on a problem and exercising such satisfaction with the result that the person awoke, got up at once, and wrote out the results."—"Relations of Mind and Body," Professor Calderwood, p. 42.

We all know how Coleridge tells us that he composed the beautiful poem of "Kubla Khan," during his dream, and wrote it out on awakening, but could not add another line to the ones he had dreamed.

"R. L. Stevenson shows how his dreams increased in complexity with his life, until, when he had to write stories for publication, he got most of his ideas from his dreams. He says: 'My Brownies (a new name for the unconscious mind), God bless them, who do one-half my work for me when I am fast asleep, and in all human likelihood do the rest for me

when the body is most dead, it necessarily follows that it never sleeps and never dies, and is, therefore, immortal.

Fifth: As the unconscious mind may be but a series of unregulated and unrelated states of consciousness, unless controlled by a single will and a persistent individuality, the inter-penetrating and all-preserving ego must be the sustaining energy that aggregates the various experiences we personate into a final, permanent whole, and constitutes our indestructible and eternal self. Naturally only those attain to the final triumph of the immortal after-life whose ego is sufficiently strong to gather up and hold together the infinite personalities through which it has been passing, either through this life or many possible preceding lives. The ego is the single string that binds the innumerable beads (the personalities) and holds them together in a single necklace; i. e., the permanent individuality.

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as well when I am wide awake and fondly suppose I do it for myself. I had long been wanting to write a book on man's double being. For two days I went about racking my brain for a plot of any sort, and on the second night I dreamt the scene in "Dr. Jeckle and Mr. Hyde," at the window; and a scene, afterward split in two, in which Hyde, pursued, took the powder and underwent the change in the presence of his pursuer."—"The Unconscious Mind," by Schofield, p. 166.

THE SCIENTIFIC DEMONSTRATION

OF THE

Soul's Existence and Immortality.

Part III. Appendices.

By
HENRY FRANK.

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APPENDIX I.

Note to p. 13.

To show how the theory that I am advocating is in perfect keeping with the most recent researches and conclusions of the advanced natural scientists I will present a few passages from Ernst Haeckel's latest work "The Riddle of the Universe." Prof. Haeckel is regarded as a Materialist by most orthodox believers, but his logical conclusions are not any more materialistic than are the orthodox conclusions. The whole issue lies in the definition. If soul be defined as an impalpable, intangible, immaterial spiritual entity—then it naturally becomes nothing but a subject of faith and falls wholly outside the possibilities of scientific research and analysis. But if soul be defined as I have in this treatise, and which I believe is thoroughly consistent with the discovered facts of science, then it becomes a subject susceptible of the most exacting scientific analysis and of final comprehension.

Haeckel says ("Riddle," p. 89): "The prevailing conception of the psychic activity [the soul], which we contest, considers soul and body to be two distinct entities. These two entities can exist independently of each other; there is no intrinsic necessity for their union. The organized body is a mortal, material nature, chemically composed of living protoplasm and its

compounds. The soul, on the other hand, is an immortal, immaterial being, a spiritual agent, whose mysterious activity is entirely incomprehensible to us. This trivial conception is, as such, spiritualistic, and its contradictory is, in a certain sense, materialistic. It is at the same time supernatural and transcendental, since it asserts the existence of forces which can exist and operate *without a material basis;* it rests on the assumption that outside of and beyond nature there is a "spiritual" and immaterial world, of which we have no experience, and of which we can learn nothing by natural means."

Now Haeckel puts his opposition to this latter and unscientific conception of the soul no more emphatically than I would myself.

If we cling to this so-called "spiritualistic" idea of the soul we can never prove or comprehend its existence, and it becomes, as I have said, but a vague and confusing subject of religious faith.

But my contention is that the psychic activity of the soul has a natural immediate existence and a material basis, and it is therefore as amenable to the study and apprehension of a scientific mind as is the body itself and the material world.

This is the gist and emphasis of my thesis.

More than this, I am contending that such a discovery and definition of the soul, although it confines it absolutely to the natural and scientific world, not only does not remove it from the plane of religious and spiritual thought, but the more strongly presents its claim upon the spiritual nature of man.

For when by the scientific penetration of human study we grasp a knowledge of the soul, and a truly scientific psychology, then have we not only established a method of research that leads to its successful discovery, but we have likewise found a scientific datum upon which to construct a successful thesis for the soul's actual existence and its extra-mortem existence, as already explained in this treatise.

In further illustration of the accuracy and scientific approval of my definition of the soul (stated on pp. 9 and 19 of this work) I will continue to quote from Haeckel.

He says ("Riddle," p. 148): "The theory of descent, combined with anthropological research, has convinced us of the descent of our human organism from a long series of animal ancestors by a slow and gradual transformation occupying many millions of years. Since then we cannot dissever man's psychic life from the rest of his vital functions—we are rather forced to the conviction of the natural evolution of our whole body and mind—it becomes one of the main tasks of modern monistic psychology to trace the stages of the historical development of the soul of man from the soul of the brute."

Again on p. 152 "I published a theory 33 years ago to the effect that every living cell has *psychic* properties, and that *the psychic life of the multicellular animals and plants is merely the sum total of the psychic functions of the cells which build up the structure.*"

In other words Haeckel shows very clearly that the

soul, as manifested in living organisms, has its origin in the primordial individual cell, out of which the entire structure of every living thing evolves. The soul grows gradually and fully as the body grows; and in proportion as the body is aborted or arrested in its physical growth (*i.e.,* in proportion to the limitation of the quantity and quality of the cells that make up the sum total of the living organism) is the soul likewise arrested and aborted. Therefore, the search for the soul will never be successful if confined to the investigation of any single organ of the body (as among the older psychologists) or even in the sum-total of single faculties that seem to be the especial instruments or organs of the soul.

The soul becomes an entity as the body becomes an entity, by growth and development; and the growth and development of the soul is in exact commensuration with the growth and development of the cellular body.

Hence, as I have contended in my definition of the soul, "it commingles with every fibre and tissue, every organ and member of the body; it is coterminous with the body, and is a *personal soul,* only so long as it retains this coterminous relation."

If this conclusion is materialism, then it is at least spiritualized materialism—whereas, the traditional definition of the soul is materialized spiritualism.

Note to p. 14.

In order that the reader may be furnished with a

more detailed statement of Dr. Beale's conclusions, I quote him here at greater length: "Even in the smallest organisms which exhibit the simplest characters, as well as in every texture of the most highly complex beings, we can demonstrate two kinds of matter, differing in very important particulars from one another; or perhaps it would be more correct to say, matter in *two* different states, manifesting different properties, and exhibiting difference in appearance, chemical composition, etc., and physical characters. * * *

"Not even the smallest living particle seen under the one-fiftieth of an inch objective consists of matter in the same state in every part, for it is composed of 1, living matter; 2, matter formed from this, and 3, pabulum, which it takes up. The matter in the *first state* is alone concerned in development and the production of those materials which ultimately take the form of tissue, secretion, deposit, as the case may be. *It alone possesses the power of growth, and of producing matter itself out of materials differing from it materially in composition, properties and powers.*" (*Protoplasm*, or *Matter and Life*. London, 1874, pp. 182, 184 and 185.

Note to p. 17.

Since the appearance of this brochure I have been taken to task in certain quarters for quoting Dr Lionel S. Beale as a commanding authority upon questions of vitalism and the chemistry of protoplasm, and it has even been intimated by some that not only are his deductions wrong, but that his alleged discovery of the "bioplast" is purely gratuitous. I therefore feel

that I should acquaint the readers of this discussion with Beale's place in biological discovery and with other similar discoveries that have been made, corroborative of Beale's facts, by authorities of undisputed position.

I quote first from the article "Anatomy" in the "Encyclopædia Britannica (p. 740). "The simplest form of organic matter capable of exhibiting the phenomena of life is called Cyto-blastema or Protoplasm. It possesses a viscous or jelly-like consistency. Under the highest powers of the microscope it seems to be homogeneous, or dimly granulated, like a sheet of ground glass. Not only can it assimilate nutriment and increase in size, but it possesses the power of spontaneous movement and contractility. * * * From the recent researches of Häckel, it would appear that protoplasm is capable of forming, without the superaddition of any other structure, independent organisms, which stand at the lowest grade of organization, and from their extreme simplicity are named by him Moneron * * * Häckel has referred these simple organisms to a sub-kingdom of Protistæ, which he considers to lie on the confines of both the animal and vegetable kingdoms."

Here it is evident the writer uses the term "Protoplasm," as Beale uses the term "Bioplasm." Beale insists that as the term Protoplasm had been used in so many and such confusing ways, referring as well to the "marked mass of living matter," as to the outer wall and formed substance, he would prefer to use Bioplasm as referring only and exclusively to the liv-

ing matter itself, out of which all other organic structures develop.

Häckel himself employs a special term to apply to the germinal points which Beale called Bioplasts. Quoting further from the Britannica article on "Anatomy": "To a mass of Protoplasm, whether it forms, as in one of these Protistæ, an independent organism, or is merely a portion of the body of the higher organisms, he has given the general name Cytode. Sometimes a Cytode is a naked clump of soft protoplasm, without a trace of differentiation either on its surface or in its substance, as in the more freely moving Moners; [evidently Häckel here refers to what Beale called Bioplasts]; at others, the peripheral part of the Cytode hardens and differentiates into a more or less perfect envelope, as in the genera Protomonos." [Here Häckel seems to refer to what Beale distinguishes as Protoplasm.] "As far back as 1861 Lionel Beale had described under the name *germinal matter* (*Bioplasm*) minute living particles of vegetable protoplasm, and in 1863 he demonstrated the presence of extremely minute particles of living matter in the blood."

It is therefore very clear that the discovery of a distinct living substance, absolutely contradistinguished from common matter, either in molecular structure or chemical consistency, is no chimera of a scientific dreamer, but a stern and serious scientific fact. Whether this discovery will force us to reach the same conclusion that Dr. Beale did is problematical—but that we are forced to accept Beale's discovery as a scientific reality is beyond dispute.

In further corroboration of Beale's discovery, I quote from Häckel ("Evolution of Man," Vol. II, 45).

"The Monera are the simplest permanent cytodes. Their entire body consists merely of soft, structureless plasson. However thoroughly we examine them with the help of the most delicate chemical reagents and the strongest optical instruments, we yet find that all parts are *completely homogeneous* ["structureless," Beale]. These Monera are therefore in the strictest sense of the word "organisms without organs," or even in a strictly philosophical sense they might not even be called "organisms," since they *possess no organs* ["structureless"], since they are not composed of various particles [not susceptible of chemical analysis, Beale].

"They can be called organisms in so far as they are capable of exercising the organic phenomena of life, of nutrition, reproduction, sensation, movement. If we tried to construct *a priori,* the simplest conceivable organism, we should always be compelled to fall back upon such Monera."

Huxley, himself, although not going into such details as Beale or Häckel, seems to have arrived at the same conclusions concerning the unit of living matter. He says in his article "Biology" in the Britannica, Vol. III, p. 590: "For the whole of the living world, then, it results that the morphological unit [Beale's "bioplast"]—the primary, fundamental form of life—is merely an individual mass of protoplasm, in which no *further structure is discernible;* that independent living forms may present but little advance on this struc-

ture, and that all higher forms of life are aggregates of such morphological units or cells, variously modified." Elsewhere in this article he shows how neither the cell, the sac, nor the primordial utricle or the central fluid are essentials of the morphological unit and insists that "either the term 'cell' must acquire a merely technical significance as the equivalent of the morphological unit, or some new term must be invented to describe the latter." This new term Beale invented in his definitive term "bioplasm."

Still more emphatically Huxley insists: "The properties of living matter *distinguish it absolutely from* all other kinds of things, and *the present state of knowledge furnishes us with no link between the living and the not-living.*"

Note to p. 18.

"The difference between germinal or living matter, or bioplasm and the pabulum which nourishes it is, I believe, *absolute.* The pabulum does not shade by imperceptible gradations into living matter, and this latter into the formed material, but the passage from one state into the other is sudden and abrupt, although there may be much living matter mixed up with a little lifeless matter, or *vice versa. The ultimate particles of matter pass from lifeless into the living state and from the latter into the dead state suddenly.* Matter cannot be said to be half dead and half alive. It is *either dead or living,* animate or inanimate; and formed matter has ceased to live." (Protoplasm, p. 185.)

First Note to p. 19.

Lest I should be misconstrued by this passage, and the reader might suppose that I am referring to vitality as a specialized and separate force in Nature, I append this explanatory note. I have said in my definition of the soul, that the universal energy manifests itself in organic forms in a special way recognized as vital force. But life, or the vital force, is not an entity or something that exists in nature outside of the molecular and organic forms through which it is manifested. Huxley makes this very clear in the following quotation from his article "Biology," in the Britannica, Vol. III., p. 589. "It must not be supposed that the differences between living and not living matter are such as to justify the assumption that the *forces at work in the one* are different from those which are to be met with in the other. * * * It may be convenient to use the term 'vitality' and 'vital force' to denote the causes of certain groups of natural operations, as we employ the names of 'electricity' and 'electrical force' to denote others; but it ceases to be proper to do so if such a name implies the absurd assumption that electricity and vitality are entities playing the part of efficient causes of electrical and vital phenomna. A mass of living protoplasm is simply a molecular machine of great complexity, the total results of the working of which, or its vital phenomena, depend on the one hand upon its construction, and upon the other, upon the *energy* supplied to it." It is with this "Energy" we have to do when we are scientifically descanting upon the soul.

Second Note to p. 19.

"Indeed we have found in the great cell-nucleus (*meganucleus*) of the infusoria a central organ of psychic activity, which plays much the same part in their unicellular organism as the brain does in the psychic life of higher animals. * * * However that very difficult question may be settled, it does not alter the fact that these unicellular protozoa give proof of the possession of a highly developed "cell-soul," which is of great interest for a correct decision as to the *psyche* of our earliest unicellular ancestors." Haeckel, "Riddle of the Universe," p. 154.

Note to p. 20.

Darwin's hypothesis of Pangenesis seems to give a very conclusive physical basis of the nature of the soul or the psychic force which I am seeking to demonstrate. He describes his theory as follows in "Plants and Animals Under Domestication," Vol. II, p. 369 ff. "It is universally admitted that the cells or units of the body increase by self-division or proliferation, retaining the same nature, and that they ultimately become converted into the various tissues and substances of the body. But besides this means of increase I assume that the units throw off minute granules which are dispersed throughout the whole system; that these when supplied with proper nutriment, multiply by self-division, and are ultimately developed into units like those from which they were originally derived.

"These granules may be called gemmules. They are collected from all parts of the system to constitute the sexual elements, and their development in the next

generation forms a new being. * * * Lastly, I assume that the gemmules in their dormant state, have a mutual affinity for each other, leading to their aggregation into buds or into sexual elements. Hence, it is not the reproductive organs or buds which generate new organisms, but the units of which each individual is composed.

"These units in the primordial living substance, out of which the sexual and formative cells are constituted —exist in countless millions throughout the system."

In the light of this theory of Darwin's we can understand what Beale referred to when he said "there is not one portion of a living growing tissue $^1/_{500}$ of an inch in extent in which living matter cannot be demonstrated," and again "in every part of the body, separated from one another by a distance a little more than the $^1/_{1000}$ part of an inch, are little masses of living matter."

It is a fact worthy of comment that when Darwin's work ("Animals and Plants Under Domestication") above quoted was in its first edition—Dr. Beale's "How to Use the Microscope"—from which the above extracts are taken—was already in its fourth edition (1868).

Note to p. 22.

"Some of the phenomena exhibited by bodies called inorganic, such as animals of many kinds, possess properties that are very like those supposed to belong solely to living things. * * * Such phenomena have led some of the most thoughtful and best informed naturalists to query whether the evidence we have does

not lend much support to the theory that *matter itself* 283. "These phenomena of life, though they may not as yet be physically and chemically explained, are certainly not to be referred to the working of any special 'vital force' peculiar to organisms. * * * We have *is alive!*" Dolbear, "Matter, Ether and Motion," p. to do here with the same forces and the same substances that are met with elsewhere in Nature." Lang, "Text-Book of Comparative Anatomy," p. 2.

Note to p. 23.

The persistency of the formative elements (Huxley's "Morphological Units," Darwin's "Gemmules" and Dr. Beale's "Bioplasts") is a point upon which we must slightly elaborate. Darwin points out how the vital or formative elements are so strong that often in grafting, the limb or organ will continue in its original form, although transplanted on an incongruous organism. He says:—"That the same cells or units may live for a long period and continue multiplying without being modified by their union with free gemmules of any kind, is probable from such cases as those of a spur of a cock, which grew to an enormous size, when grafted into the ear of an ox." ("Animals and Plants Under Domestication," p. 377.)

This fact indicates that the bioplasts or primary vital elements exercise a persistency or continuity of their own, even when opposed by disintegrating or permutating influences.

On the contrary, this same curious characteristic of the living units is evidenced in their conserving or integrating power—as shown in cases of the long life

of seeds and grains. It is said that they have been found buried for thousands of years with mummies and when subjected to heat and moisture have evidenced signs of life.

This shows that, whatever be the status of the formed or visible elements that constitute an organic body, it does not seem to interfere with the persistency of life in the vital elements or the living units that are the basis of growth in the living organism.

This fact has been somewhat elaborated in a work by the late Dr. Gibier, which seems to me to bear strongly on this point, and indicates that the living units or bioplasts can persist in life after the death of the visible body without contact with other living matter.

In his work "Psychism" (p. 241) he claims that in 1887, during the yellow fever scourge in Havana, he drew some liquid through the walls of the bladder of a corpse (dead for two hours) into a tube of glass (Pasteur's pipette). With the broken and irregular end of the tube, which had been previously passed through the flame of an alcohol lamp, he lightly scraped the internal wall of the viscus and drew by aspiration a small quantity of the liquid contents. The tube was immediately sealed and an hour and a half after its contents were placed in liquefied and neutral "gelose," which was placed in watch crystals and protected in china vessels. Dr. Gibier claims that after a few days, in the transparent medium of agar-agar, a number of whitish, irregularly shaped pellicles appeared, which were augmented day by day. In short,

he claims that this experiment demonstrates the fact that the original living units (Beale's "bioplasts") will propagate themselves without contact with other living matter.

If this experiment could be demonstrated beyond a doubt, it would seem to prove Darwin's hypothesis of "gemmules"—which he says break off from the cells of the body and are sexually united because of certain affinities among them.

Science is thus closely approaching the demonstration of the independent existence of the bioplasts or vital units, and the fact that life once manifested in organic form is susceptible of persistent development, if not incapable of destruction.

These conclusions seem to be further reinforced by the recent experiments of Dr. Loeb and Prof. Matthews of the Chicago University, in the physical qualities of the elements of life. Prof. Matthews says in the *Century Magazine* of March, 1902, p. 792: "The physical explanation of the phenomena of life, will, if it prove true, bring us a step nearer the understanding of other life-phenomena, the artificial synthesis of living matter, and the prolongation of life. There is apparently no inherent reason why a man should die, except our ignorance of the conditions governing the reaction going on in his protoplasm."

Note to p. 25.

Perhaps it will yet be proved (following the lines of research pursued by Profs. Loeb and Matthews) that the immortality of the individual to be attained is that of the physical body itself in some highly modified

and far more complex form of existence. The entire race may slowly evolve to this exalted condition through millions of years or far-reaching aeons. Meanwhile individual and extraordinary cases of persistency of life will be evidenced all down the centuries. Gradually so much of the race will persist and be permanently preserved as is capable of learning and applying the newly discovered principles of the Science of Life, while those who are ignorant or incapable of utilizing the knowledge that future discoveries may afford them, will perish forever and permit the more fortunate and aggressive to survive and develop the race.

Note to p. 27.

"Even in the smallest organisms, which exhibit the simplest characters, as well as in every structure of the most highly complex beings, we can demonstrate two kinds of matter, differing in very important particulars from one another; or, perhaps it would be more correct to say, matter *in two different states manifesting different properties*, and exhibiting differences in appearance, *chemical composition,* etc., and physical characters." (*Protoplasm,* or *Matter and Life,* Dr. Lionel S. Beale, London, 1872, page 182.)

Indeed, the discoveries of all life, the physical formation of life activities, and so-called biochemistry, are treading so fast upon each others' heels that almost every day some startling revelation is made. Once it was claimed, and apparently proved by Pasteur, that fermentation was the result of life. Now the exact opposite seems to be proved. Carl

Snyder, in *Harper's Magazine* (November, 1902), asserts that "the sum of activities we collectively call life is a series of fermentations."

But what these fermentations (enzymes, zymoses or diasteses) are science as yet cannot say. Mr. Snyder tells us that some German chemists have succeeded in imitating some of the ferment actions by means of solution of very finely divided metals, such as platinum or gold.

This reminds us of a recent report of the discovery of an East Indian scientist, who seems to have demonstrated the sensitiveness of metals by tracing their feelings on a carbon paper the same as the feelings or sensations of the nerves in living organisms are traced. By this process he claims to have proved literally that all matter is alive. Another recent discovery of what is called the reversibility of ferment action has led to some truly startling conclusions. It is found that the ferment which splits up starch into sugar and water will, if its action is continued beyond a certain point, join their components together again to form starch. This fact leads Mr. Snyder to the following conclusion, which is strongly corroborative of what I have just intimated:

"It seems to be clear that the condition of growth, whether of a grain of wheat or the germ of a man, is the production, or appearance, of distinct enzymes—ferments—at each stage. Cessation of growth must mean the disappearance or lapse in activity of these special enzymes. What we call growing old seems merely a series of destructive fermentations. It is probable that these are present *from the beginning*—that

throughout all life there is a struggle, so to speak, between the two; that in some sense, as Professor Loeb once remarked, death is a physical agent, the material antithesis of life.

"If the action of the malt enzymes upon starch is reversible, so is that of the ferments which convert the active tissue, the living protoplasm, into the relatively dead, fatty, or connective, or cartilage, or bone tissue—the characteristic, as the great Russian biologist, Metchnikoff, has shown, of advancing years. As the discovery of the constructive ferments gave at last a clue to a complete account of the whole life process, so to those who have closely and reflectively followed the development of biochemistry the discovery of reversibility in fermentation may in time disclose the reversibility of the life process: in more concrete phrase, the arrest of death, the prevention of old age, the preservation of youth."

APPENDIX II.

PHOTOGRAPHING THE SOUL.

I believe the time is not far distant when the image of the human soul will be reproduced in the photographic camera.

I rest this statement upon what I believe to be strictly scientific ground, which in the near future will become the common property of mankind.

We have been wont to conceive of the mind and the soul as immaterial quantities, some way mysteriously associated with the human organism, yet being absolutely distinct in essential nature from the organism itself.

We have refused to regard mind as substance, and have conceived it as purely an immaterial force; but in so doing have necessarily confused our philosophy and science.

That sort of a mind has never been discovered in the universe; it doubtless never can be.

Mind, so far as it may be an energy of motion, may be regarded as immaterial; the same as all motion in the universe is immaterial.

But while the force known as motion in itself is immaterial we know that that force is never exercised except upon material substances.

Therefore, while the ultimate, intelligent energy known as mind may be an immaterial quantity in nature, the mind that operates in nature, and that has become interwoven in the organism of the human being, is itself inherent in the organism and essentially associated with its material substance.

Now, what we understand as the soul is simply the invisible material organism which is delicately and instantaneously responsive to the operations of the mind; and is not a separate person within the human body, distinguishable from the organism itself, and sometime to be separated from all material relationship, as heretofore believed.

Strict science is slowly leading us into an appreciation of this fact, and revealing the possibility of the actual discovery of the soul, and its visible representation through mechanical instruments. I am well aware that this may appear to be a very startling and to some perhaps a ludicrous statement, if they are not acquainted with the facts. But I will now present a few scientific certainties, which are the bases upon which I rest my prophecies.

The blood itself, because of its phosphorescent constituents, is a luminous body. Each distinct cell is constantly emitting a certain quantity of light.

The actual organism of the body, which we perceive with the eye, is not the final analysis to which it may be reduced. The denser portions of the exterior body are not as delicately susceptible to the operations of the mind as are the more invisible and less understood portions of the organism.

We know, for instance, that the mind operates more delicately and instinctively upon the nervous system than it does upon the muscular and fibrous portions of the body, and for that reason there is an organized sensorium or nervous telegraphic medium which nature has constructed for the purpose of delicately transmitting through the body the impressions of the mental forces.

Now, again, we learn that certain parts of this nervous system are far more delicately responsive to the mental operations than other portions of it. Also, we learn that in some organisms, the sensitive response of the nervous system is far more delicate and instantaneous than it is in others; as, for instance, the nervous system of women responds, as a rule, more to the mental impressions than that of men.

There are psychological instruments which measure the actual time it requires for the passage of the mental operation through the nervous system into the exterior of the body; and it has been proved in many cases that certain persons are, through this nervous system, far more responsive than others.

Now, I ask, why is one sensorium more immediately responsive to the mental operation than the other? The answer is, of course, that the more refined, subtle or sublimated the substance which constitutes the nervous organism, the more delicately and instantaneously it will respond to the mental energy which impresses it. As, for instance, we know that water and the humid substance of the

atmosphere are identical; and yet, because of the dense combination of the substances which constitute water, it is far less responsive to an external impression than is the atmospheric vapor. This is because vapor is less dense than water, and therefore its individual particles can be more independently affected by any force, internal or external, which may play upon it, than can the denser particles of the water.

Just so the more refined and sublimated the substance that constitutes the different nervous systems of animals and human beings, the more delicately will it respond to the mental impressions.

Now, we have not yet reached the last possible scientific analysis of the physical or nervous organism of man. We have reached an analysis which teaches us that the ultimate cells of the body are not only inconceivably small, but that they consist of such rarefied substance, that it is more sensitive to internal impressions than anything else we know in nature.

This curious fact is demonstrated in the experience of the human eye when it receives the impression of an ultra-violet ray of light. At such a time some nine hundred trillions of impressions are impinged upon the eye in a single second. The marvel is that the eye is so delicately constructed that its millions of cells respond instantly to the myriad impressions that play upon it. The eyelid that covers the eye, although consisting of the same elementary *chemical* substances as the eye, is more

grossly constructed, not having attained so highly sublimated a state.

Also we have learned that the delicate and sensitive substance, which is sometimes called protoplasm, is in its nature luminous. Science tells us that "the emission of light is one of the properties of protoplasm. Phosphorus enters largely into the composition of the human body. . . . . As oxygen is being constantly conveyed to those phosphorated tissues, light will certainly be generated." Thus says M. de Manaceine in his work on "The Psychology of Sleep," which he closes with this remarkable suggestion:

"It would be interesting to know if a microphotograph of the circulation could be taken after long exposure in darkness with a very sensitive plate." This latter suggestion, founded upon the more conservative facts of science, is the ground upon which I rest my prophecy that sometime the soul of man may be reproduced on the sensitive plate of some micro-photographic instrument; for, as I have shown mind and matter, in the last analysis, are not separable, but are inherently and essentially co-incident in all the operations of nature.

I have also shown that the impressions of the mental process are sensitively received by the delicate organism of the nervous system. This delicate organism, more refined in some human beings than in others, is itself the garment or the tenement of that mental force which heretofore, vaguely, we have denominated the soul.

I understand the soul to be this invisible reflection of the mental process upon the delicate nervous organism.

So long as individual mind exists, it must exist in association with some material organism, however sublimated the substance may be of which that organism consists. Just as wherever mind exists in nature, it exists inseparable from material substance in all gradations, from the most dense to the most delicate and rarefied.

Now, I have suggested that this subtile substance, which constitutes the nervous system of the body, and receives the impressions of the mind, is a phosphorescent or luminous substance. Such a substance can be made to impress its image upon the sensitive plate of a micro-camera.

If, therefore, the time shall come when by long exposure to such a sensitive plate the actual circulation of the blood may be photographed, *then it is likewise true that the image of the soul itself, which is nothing more than the reflection of mental impressions upon the invisible bioplasms of the nervous system, may likewise be photographed.*

From this we draw the conclusion that, insomuch as every mental image physically impresses itself upon the cellular tissues of the nervous system, therefore those images or mental thoughts are themselves capable of reproduction in photographic reflection.

Hence, not only does science clearly prophesy that sometime the contour of the soul itself, re-

flected in the cellular organism of the body, may be imaged upon the sensitive plate and be reproduced visually to the human eye, but likewise those supposed spiritual operations—the thoughts of the human mind—may become capable of reproduction, till the very images of one's mind shall no longer be the secret property and possession of the individual thinker, but may become the permanent heritage of all the human race.

If the suggestion of this paper could ever be proved a scientific fact it might produce some marvelous, not to say startling, results.

If the neuro-cerebral system is the sensitive plate upon which all the impressions, activities, thoughts, and dispositions of the individual are caught, then if this could be actually reproduced in photographic form, we might have a revelation of character far beyond what the most intimate acquaintance would reveal.

For the neuro-cerebral system registers not only the conscious, but the unconscious conditions or impressions as well.

Speaking of our ability to recall dream and dream images, M. Manaceine says: "In fairly deep sleep conscious personality is abolished, and the images of dreams pass before us strange and unknown, without relation to us. We can scarcely recall dreams of this kind, and if we sometimes remember them, it is later on, some time in the course of the day.

"Such reminiscences of dreams occur in accord-

ance with the psycho-physiological law, by which we sometimes hear, afterward, the sounds of human speech which has ceased; the melody which no longer vibrates; the clock which struck some seconds since; they had passed unperceived though *not unregistered*, because then consciousness was otherwise occupied.

"*The neuro-cerebral system retains the traces of the impressions which strike it*, and in the absence of other exterior impressions, *these may revive under the sole influences of that voluntary impression which is, as it were, given to consciousness.* In such cases consciousness may be compared to a master who returns to his property after temporary absence; he carefully examines all the changes, the additions, the transpositions which have occurred during his absence, and notes what he finds." *

But if it be true that every impression, unconscious as well as conscious, is registered in the neuro-cerebral system, and by a possible long exposure a micro-photograph could be taken of such impressions, then, of course, the camera would do the work that our author says consciousness does when returning to its house, and would reveal the secret thoughts, feelings, purposes, biases, passions and proclivities of each person.

I am well aware that such possibility suggests a new and curious field for scientific investigation, and at the present stage of research will be scouted

* The italics are mine. (H. F.)

by the conservative; but at the same time, those who have traced the progress of science in the last quarter of a century, and more especially the psychological research of the last ten years, will not in any way be startled by the possibilities I am indicating, or inclined to cast them aside as ridiculous.

I believe that at this point physical science and spiritual philosophy meet to join hands; that this is the common ground of union for all conflicting classes of investigation; and that here science and religion, realism and idealism, poetry and practice, become one and the same; and upon this foundation a wholly new superstructure of religious science may be reared for the future generations of the race.