

Gates, Elmer. *Electrical Basis of Life.* *Suggestion* (probably March, possibly April, 1904), pp. 183-184

Electrical Basis of Life.
By Prof. Elmer Gates, Washington, D. C.
Written for Suggestion

Please allow me the privilege of correcting an unfortunate statement in a recent sensational article to the effect that I saw the “soul” of a rat—a mistake due either to the hasty imagination of the presiding genius who evolves “headlines” or to the misunderstanding of those who prepared the article. I was interviewed regarding an imaginary experiment mentioned in an article of mine on “Immortality from New Standpoints” in “Proofs of Life After Death,” published by Robert J. Thompson of Chicago—an article which roughly indicates my views and one of the speculative lines along which I have studied the subject. I have been trying to study the subject otherwise than speculatively, by laboratory methods, and among my earliest ventures in that line was the rat experiment which came nearly misleading me.

In this article, above referred to, I give an *hypothetical* experiment to illustrate what would be considered satisfactory inductive, laboratory proof of the duality of an organism, etc.—but it was only an hypothetical ease.

Years ago, when making researches in this line, I found an animal to be opaque to electrical waves when living, and transparent to these waves after death; and under the influence of the “suggestion” and “expectancy” attending the experiment my assistants on one or two occasions, thought they saw the shadow of a rat-shaped organism passing away from the dying rat; but with the best efforts I could see nothing of the kind; neither could I satisfy myself by several tests that they had seen anything different than a hallucination. Since then I have discovered that the opaqueness of the body of a live animal to electrical undulations is due to the fact that every muscle and nerve in the body is electrically active during life, and is, in fact, a bundle of electrical currents, and, consequently, electric waves can not get through them. At death these electric activities cease and the electric waves can pass through the body and make their impression on the recording screen on the other side. As I specifically stated to the reporter, I do not believe the electric transparency of a dead body to be due to the passing away of a “soul,” but to the cessation of electrical activities. Of course, for all I know scientifically, there may be the passing away of a “soul”; but there is nothing in the experiment to warrant such a conclusion.

Whilst this rat experiment did not teach us anything about a

“soul,” it did show how closely electricity is connected with life, and suggests a method of testing whether life is extinct or not; and prepares the way for other experiments. Moreover, it is a possible new mode of diagnosis because the different parts of the body will be unequally transparent to electric waves according as they have unequal amounts of electric activity in them, as they would be likely to have under pathologic conditions. But the most important result of the experiment is this—it led to the discovery that living things give off electric waves in proportion to the degree of mental activity—which makes it possible to quantitatively measure conscious states. This opens a new field of research in scientific psychology—that of measuring subjective states and comparing them with each other in the same person or in different persons.

I am, however, free to say that in my opinion science will demonstrate that all matter is organic; and that it contains immanently within its substance a fundamental property out of which arises life or mind; and, furthermore, I believe that if a continuance of life after death is a fact in nature that laboratory methods are capable of discovering and demonstrating it.

The apparatus by which the above experiment can be most easily repeated consists of an electric spark oscillator capable of giving off electric waves varying in pitch up to the highest frequency attainable—a modified form of such apparatus as is now used in wireless telegraphy; and instead of a coherer use a set of coils for transforming the electric waves into electricity so that it may be measured by a delicate reflecting galvanoscope. These wire coils must be small enough to be hidden behind the body of the animal so as to be in the shadow with reference to the source of electric waves. If the apparatus is sufficiently delicate it will measure the waves which pass through the body of an animal after death but will not indicate them when the body is alive. The apparatus becomes more delicate if along with the electric waves there are projected ultra violet waves of light—which are also electric undulations—because of an action similar in discharging a static condenser, they likewise act upon the coil.

Suggestion, Letter to the editor, date unknown

Prof. Gates Misquoted.

Some of the sensational journals have received the old yarn that Prof. Elmer Gates claimed that he had seen the shadow of the soul of a rat, and very weird pictures have been printed showing the alleged experiment.

Prof. Gates some time ago in a letter which was published in this magazine denied that he had ever made any such statements.

The recent yellow utterances were called to Prof. Gates' attention, and he writes as follows, under date of April 17th:

"I thank you for the clipping, and for your kindness in correcting the rat story—like the cat, it seems to have *nine lives!* My own account of these experiments with electric waves and light rays will soon be published in London and New York papers and I will send you a copy. In the meantime I enclose a brief statement."

The statement referred to by Prof. Gates is as follows:

"I have been studying Methods of Scientific Investigation with educational ends in view, and this has led me into various fields, and from time to time the newspapers get garbled accounts of my discoveries from friends or enemies, and sometimes they write up [w]holly "fake" articles—the picture in the New York Journal which you sent me was wholly "faked," and the more sensational they are the more they are copied. Among other things which they have gotten hopelessly mixed and wrong is the report that I 'have seen the shadow of the soul of a rat.' I regret to say that I have not, but still hope to find physical evidences of man's duality.

"I discovered that *electric WAVES* (not X-rays or violet-light) pass more freely through a *dead* than a living organism and I have further found this difference in transparency to be due to the fact that at death there is a cessation of the normal *electric currents* in nerves and muscles, and not, so far as I have had any evidence, the 'passing away of the soul.' But this is a *new method* of research in this domain and it may be that I will yet sometime find known or unknown rays, which, by appropriate technique, may reveal the shadow of the soul, if a soul-organism there be. This line of research has been lagging for want of funds available for that purpose."