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William Crookes
Excerpt
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RESEARCHES
IN
THE PHENOMENA
OF
SPIRITUALISM.
BY
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SPIRITUALISM

VIEWS BY THE

LIGHT OF MODERN SCIENCE.

SOME weeks ago the fact that I was engaged in investigating Spiritualism, so called, was announced in a contemporary;* and in consequence of the many communications I have since received, I think it desirable to say a little concerning the investigation which I have commenced. Views or opinions I cannot be said to possess on a subject which I do not pretend to understand. I consider it the duty of scientific men who have learnt exact modes of working, to examine phenomena which attract the attention of the public, in order to confirm their genuineness, or to explain, if possible, the delusions of the honest and to expose the tricks of deceivers. But I think it a pity that any public announcement of a man's investigation should be made until he has shown himself willing to speak out.

A man may be a true scientific man, and yet agree with Professor De Morgan, when he says—"I have both seen and heard, in a manner which would make unbelief impossible, things called spiritual, which cannot be taken by a rational being to be capable of explanation by imposture, coincidence, or mistake. So far I feel the ground firm under me; but when it comes to what is the cause of these phenomena, I find I cannot adopt any explanation which has yet been suggested. . . . The physical explanations which I have seen are easy, but miserably insufficient. The spiritual hypothesis is sufficient, but ponderously difficult."

Regarding the sufficiency of the explanation, I am not able to speak. That certain physical phenomena, such as the movement of material substances, and the production of sounds resembling electric discharges, occur under cir-

* *The Athenæum.*

cumstances in which they cannot be explained by any physical law at present known, is a fact of which I am as certain as I am of the most elementary fact in chemistry. My whole scientific education has been one long lesson in exactness of observation, and I wish it to be distinctly understood that this firm conviction is the result of most careful investigation. But I cannot, at present, hazard even the most vague hypothesis as to the cause of the phenomena. Hitherto I have seen nothing to convince me of the truth of the "spiritual" theory. In such an inquiry the intellect demands that the spiritual proof must be absolutely incapable of being explained away; it must be so strikingly and convincingly true that we cannot, dare not deny it.

Faraday says, "Before we proceed to consider any question involving physical principles, we should set out with clear ideas of the naturally possible and impossible." But this appears like reasoning in a circle: we are to investigate nothing till we know it to be *possible*, whilst we cannot say what is *impossible*, outside pure mathematics, till we know everything.

In the present case I prefer to enter upon the enquiry with no preconceived notions whatever as to what can or cannot be, but with all my senses alert and ready to convey information to the brain; believing, as I do, that we have by no means exhausted all human knowledge or fathomed the depths of all the physical forces, and remembering that the great philosopher already quoted said, in reference to some speculations on the gravitating force, "Nothing is too wonderful to be true, if it be consistent with the laws of nature; and in such things as these, experiment is the best test of such consistency."

The modes of reasoning of scientific men appear to be generally misunderstood by spiritualists with whom I have conversed, and the reluctance of the trained scientific mind to investigate this subject is frequently ascribed to unworthy motives. I think, therefore, it will be of service if I here illustrate the modes of thought current amongst those who investigate science, and say what kind of experimental proof science has a right to demand before admitting a new department of knowledge into her ranks. We must not mix up the exact and the inexact. The supremacy of accuracy must be absolute.

The first requisite is to be sure of facts; then to ascertain conditions; next, laws. Accuracy and knowledge of detail stand foremost amongst the great aims of modern scientific

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men. No observations are of much use to the student of science unless they are truthful and made under test conditions; and here I find the great mass of spiritualistic evidence to fail. In a subject which, perhaps, more than any other lends itself to trickery and deception, the precautions against fraud appear to have been, in most cases, totally insufficient, owing, it would seem, to an erroneous idea that to ask for such safeguards was to imply a suspicion of the honesty of some one present. We may use our own unaided senses, but when we ask for instrumental means to increase their sharpness, certainty, and trustworthiness under circumstances of excitement and difficulty, and when one's natural senses are liable to be thrown off their balance, offence is taken.

In the countless number of recorded observations I have read, there appear to be few instances of meetings held for the express purpose of getting the phenomena under test conditions, in the presence of persons properly qualified by scientific training to weigh and adjust the value of the evidence which might present itself. The only good series of test experiments I have met with were tried by the Count de Gasparin, and he, whilst admitting the genuineness of the phenomena, came to the conclusion that they were not due to supernatural agency.

The pseudo-scientific spiritualist professes to know everything: no calculations trouble his serenity, no hard experiments, no long laborious readings; no weary attempts to make clear in words that which has rejoiced the heart and elevated the mind. He talks glibly of all sciences and arts, overwhelming the enquirer with terms like "electro-biologize," "psychologize," "animal magnetism," &c.—a mere play upon words, showing ignorance rather than understanding. Popular science such as this is little able to guide discovery rushing onwards to an unknown future; and the real workers of science must be extremely careful not to allow the reins to get into unfit and incompetent hands.

In investigations which so completely baffle the ordinary observer, the thorough scientific man has a great advantage. He has followed science from the beginning through a long line of learning, and he knows, therefore, in what direction it is leading; he knows that there are dangers on one side, uncertainties on another, and almost absolute certainty on a third: he sees to a certain extent in advance. But, where every step is towards the marvellous and unexpected, precautions and tests should be multiplied rather than diminished. Investigators must work; although their work may

be very small in quantity if only compensation be made by its intrinsic excellence. But, even in this realm of marvels,—this wonder-land towards which scientific enquiry is sending out its pioneers,—can anything be more astonishing than the delicacy of the instrumental aids which the workers bring with them to supplement the observations of their natural senses?

The spiritualist tells of bodies weighing 50 or 100 lbs. being lifted up into the air without the intervention of any known force; but the scientific chemist is accustomed to use a balance which will render sensible a weight so small that it would take ten thousand of them to weigh one grain; he is, therefore, justified in asking that a power, professing to be guided by intelligence, which will toss a heavy body up to the ceiling, shall also cause his delicately-poised balance to move under test conditions.

The spiritualist tells of tapping sounds which are produced in different parts of a room when two or more persons sit quietly round a table. The scientific experimenter is entitled to ask that these taps shall be produced on the stretched membrane of his phonautograph.

The spiritualist tells of rooms and houses being shaken, even to injury, by superhuman power. The man of science merely asks for a pendulum to be set vibrating when it is in a glass case and supported on solid masonry.

The spiritualist tells of heavy articles of furniture moving from one room to another without human agency. But the man of science has made instruments which will divide an inch into a million parts; and he is justified in doubting the accuracy of the former observations, if the same force is powerless to move the index of his instrument one poor degree.

The spiritualist tells of flowers with the fresh dew on them, of fruit, and living objects being carried through closed windows, and even solid brick-walls. The scientific investigator naturally asks that an additional weight (if it be only the 1000th part of a grain) be deposited on one pan of his balance when the case is locked. And the chemist asks for the 1000th of a grain of arsenic to be carried through the sides of a glass tube in which pure water is hermetically sealed.

The spiritualist tells of manifestations of power, which would be equivalent to many thousands of “foot-pounds,” taking place without known agency. The man of science, believing firmly in the conservation of force, and that it is never produced without a corresponding exhaustion of

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something to replace it, asks for some such exhibitions of power to be manifested in his laboratory, where he can weigh, measure, and submit it to proper tests.*

For these reasons and with these feelings I began an inquiry suggested to me by eminent men exercising great influence on the thought of the country. At first, like other men who thought little of the matter and saw little, I believed that the whole affair was a superstition, or at least an unexplained trick. Even at this moment I meet with cases which I cannot *prove* to be anything else; and in some cases I am sure that it is a delusion of the senses.

I by no means promise to enter fully into this subject; it seems very difficult to obtain opportunities, and numerous failures certainly may dishearten anyone. The persons in whose presence these phenomena take place are few in number, and opportunities for experimenting with previously arranged apparatus are rarer still. I should feel it to be a great satisfaction if I could bring out light in any direction, and I may safely say that I care not in what direction. With this end in view, I appeal to any of my readers who may possess a key to these strange phenomena, to further the progress of the truth by assisting me in my investigations. That the subject has to do with strange physiological conditions is clear, and these in a sense may be called "spiritual" when they produce certain results in our minds. At present the phenomena I have observed baffle explanation; so do the phenomena of thought, which are also spiritual, and which no philosopher has yet understood. No man, however, denies them.

The explanations given to me, both orally and in most of the books I have read, are shrouded in such an affected ponderosity of style, such an attempt at disguising poverty of ideas in grandiloquent language, that I feel it impossible, after driving off the frothy diluent, to discern a crystalline residue of meaning. I confess that the reasoning of some spiritualists would almost seem to justify Faraday's severe statement—that many dogs have the power of coming to much more logical conclusions. Their speculations utterly ignore all theories of force being only a form of molecular motion, and they speak of Force, Matter, and Spirit, as

* In justice to my subject, I must state that, on repeating these views to some of the leading "spiritualists" and most trustworthy "mediums" in England, they express perfect confidence in the success of the enquiry, if honestly carried out in the spirit here exemplified; and they have offered to assist me to the utmost of their ability, by placing their peculiar powers at my disposal. As far as I have proceeded, I may as well add that the preliminary tests have been satisfactory.

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three distinct entities, each capable of existing without the others; although they sometimes admit that they are mutually convertible.

These spiritualists are certainly not much in advance of an alchemical writer, who says—

“ I asked Philosophy how I should
Have of her the thing I would.
She answered me when I was able
To make the water malliable,
Or else the way if I could finde,
To measure out a yard of winde ;
Then shalt thou have thine own desire,
When thou canst weigh an ounce of Fire ;
Unless that thou canst do these three,
Content thyselfe, thou get'st not me.”

It has been my wish to show that science is gradually making its followers the representatives of care and accuracy. It is a fine quality that of uttering undeniable truth. Let, then, that position not be lowered, but let words suit facts with an accuracy equal to that with which the facts themselves can be ascertained ; and in a subject encrusted with credulity and superstition, let it be shown that there *is* a class of facts to be found upon which reliance can be placed, so far, that we may be certain they will never change. In common affairs a mistake may have but a short life, but in the study of nature an imperfect observation may cause infinite trouble to thousands. The increased employment of scientific methods will promote exact observation and greater love of truth among enquirers, and will produce a race of observers who will drive the worthless residuum of spiritualism hence into the unknown limbo of magic and necromancy.

If spiritualists would but attend to the teachings of their own prophets, they would no longer have to complain of the hostile attitude of Science ; for hear what Thomas L. Harris urges, in his “Lyric of a Golden Age !”

“ The nearer to the practical men keep—
The less they deal in vague and abstract things
The less they deal in huge mysterious words—
The mightier is their power.

The simplest peasant who observes a truth,
And from a fact deduces principle,
Adds solid treasure to the public wealth.
The theorist, who dreams a rainbow dream,
And calls hypothesis philosophy,
At best is but a paper financier,
Who palms his specious promises for gold.
Facts are the basis of philosophy ;
Philosophy the harmony of facts
Seen in their right relation.

[From the "Quarterly Journal of Science," July 1, 1871.]

EXPERIMENTAL INVESTIGATION OF A NEW FORCE.

TWELVE months ago in this journal* I wrote an article, in which, after expressing in the most emphatic manner my belief in the occurrence, under certain circumstances, of phenomena inexplicable by any known natural laws, I indicated several tests which men of science had a right to demand before giving credence to the genuineness of these phenomena. Among the tests pointed out were, that a "delicately poised balance should be moved under test conditions;" and that some exhibition of power equivalent to so many "foot-pounds" should be "manifested in his laboratory, where the experimentalist could weigh, measure, and submit it to proper tests." I said, too, that I could not promise to enter fully into this subject, owing to the difficulties of obtaining opportunities, and the numerous failures attending the enquiry; moreover, that "the persons in whose presence these phenomena take place are few in number, and opportunities for experimenting with previously arranged apparatus are rarer still."

Opportunities having since offered for pursuing the investigation, I have gladly availed myself of them for applying to these phenomena careful scientific testing experiments, and I have thus arrived at certain definite results which I think it right should be published. These experiments appear conclusively to establish the existence of a new force, in some unknown manner connected with the human organisation, which for convenience may be called the Psychic Force.

Of all the persons endowed with a powerful development of this Psychic Force, and who have been termed "mediums" upon quite another theory of its origin, Mr. Daniel Dunglas Home is the most remarkable, and it is mainly owing to

* See Quarterly Journal of Science, vol. vii., p. 316, July, 1870.

the many opportunities I have had of carrying on my investigation in his presence that I am enabled to affirm so conclusively the existence of this Force. The experiments I have tried have been very numerous, but owing to our imperfect knowledge of the conditions which favour or oppose the manifestations of this force, to the apparently capricious manner in which it is exerted, and to the fact that Mr. Home himself is subject to unaccountable ebbs and flows of the force, it has but seldom happened that a result obtained on one occasion could be subsequently confirmed and tested with apparatus specially contrived for the purpose.

Among the remarkable phenomena which occur under Mr. Home's influence, the most striking, as well as the most easily tested with scientific accuracy, are—(1) the alteration in the weight of bodies, and (2) the playing of tunes upon musical instruments (generally an accordion, for convenience of portability) without direct human intervention, under conditions rendering contact or connection with the keys impossible. Not until I had witnessed these facts some half-dozen times, and scrutinised them with all the critical acumen I possess, did I become convinced of their objective reality. Still, desiring to place the matter beyond the shadow of doubt, I invited Mr. Home on several occasions to come to my own house, where, in the presence of a few scientific enquirers, these phenomena could be submitted to crucial experiments.

The meetings took place in the evening, in a large room lighted by gas. The apparatus prepared for the purpose of testing the movements of the accordion, consisted of a cage, formed of two wooden hoops, respectively 1 foot 10 inches and 2 feet diameter, connected together by 12 narrow laths, each 1 foot 10 inches long, so as to form a drum-shaped frame, open at the top and bottom; round this 50 yards of insulated copper wire were wound in 24 rounds, each being rather less than an inch from its neighbour. These horizontal strands of wire were then netted together firmly with string, so as to form meshes rather less than 2 inches long by 1 inch high. The height of this cage was such that it would just slip under my dining table, but be too close to the top to allow of the hand being introduced into the interior, or to admit of a foot being pushed underneath it. In another room were two Grove's cells, wires being led from them into the dining-room for connection, if desirable, with the wire surrounding the cage.

The accordion was a new one, having been purchased by