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PSYCHIC FORCE

AND

MODERN SPIRITUALISM:

A REPLY TO THE "QUARTERLY REVIEW"

AND OTHER CRITICS.

BY

WILLIAM CROOKES, F.R.S., &c.

LONDON:
LONGMANS, GREEN, AND CO.,
1871,

PSYCHIC FORCE

BY
J. H. P. [illegible]

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P R E F A C E .

I N presenting this pamphlet to the public, let me take the opportunity of explaining the exact position which I wish to occupy in respect to the subject of Psychic Force and Modern Spiritualism. I have desired to examine the phenomena from a point of view as strictly physical as their nature will permit. I wish to ascertain the laws governing the appearance of very remarkable phenomena which at the present time are occurring to an almost incredible extent. That a hitherto unrecognised form of Force—whether it be called psychic force or x force is of little consequence—is involved in this occurrence, is not with me a matter of opinion, but of absolute knowledge ; but the nature of that force, or the cause which immediately excites its activity, forms a subject on which I do not at present feel competent to offer an opinion. I wish, at least for the present, to be considered in the position of an electrician at Valentia, examining by means of appropriate testing instruments, certain electrical currents and pulsations passing through the Atlantic cable ; independently of their causation, and ignoring whether these phenomena are produced by imperfections in the testing instruments themselves—whether by earth currents or by faults in the insulation—or whether they are produced by an intelligent operator at the other end of the line.

WILLIAM CROOKES.

LONDON, *Dec.*, 1871.



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PSYCHIC FORCE

AND

MODERN SPIRITUALISM :

A REPLY TO THE "QUARTERLY REVIEW."

THE *Quarterly Review* for October contains an article under the title of "Spiritualism and its Recent Converts," in which my investigations and those of other scientific men are severely handled in the spiteful bad old style which formerly characterised this periodical, and which I thought had happily passed away. It has reverted to the unjustifiable fashion of testing truth by the character of individuals. Had the writer contented himself with fair criticism, however sharply administered, I should have taken no public notice of it, but have submitted with the best grace I could. But with reference to myself he has further mis-stated and distorted the aim and nature of my investigations, and written of me personally as confidently as if he had known me from boyhood and was thoroughly acquainted with every circumstance of my educational and scientific career, so that I feel constrained to protest against his manifest unfairness, prejudice, and incapacity to deal with the subject and my connection with it. Although other investigators, including Dr. Huggins, Serjeant Cox, Mr. Varley, and Lord Lindsay, are included in the indictment and found guilty with extenuating circumstances, for me he can feel no tenderness, which, were it not for my recent sins, he is good enough to observe he "might have otherwise felt for a man who has in his previous career made creditable use of his very limited opportunities." The other offenders who are attacked can well take care of themselves ; let me now vindicate myself.

It was my good or evil fortune, as the case may be, to have an hour's conversation, if it may be so termed when the talking was all on one side, with the Quarterly Reviewer in question, when I had an opportunity of observing the curiously dogmatic tone of his mind and of estimating his incapacity to deal with any subject conflicting with his prejudices and prepossessions. At the last meeting of the British Association at Edinburgh we were introduced—He as a physiologist who had enquired into the matter fifteen or

twenty years ago; I as a scientific investigator of a certain department of the subject; here is a sketch of our interview, accurate in substance if not identical in language.

"Ah! Mr. Crookes," said he, "I am glad I have an opportunity of speaking to you about this Spiritualism you have been writing about. You are only wasting your time. I devoted a great deal of time many years ago to Mesmerism, Clairvoyance, Electro-biology, Table-turning, Spirit-rapping, and all the rest of it, and I found there was nothing in it. I explained it all in my article I wrote in the *Quarterly Review*. I think it a pity you have written anything on this subject before you made yourself intimately acquainted with my writings and my views on the subject. I have exhausted it."

"But, Sir," interposed I, "you will allow me to say you are mistaken, if—"

"No, no!" interrupted he, "I am not mistaken. I know what you would say. But it is quite evident from what you have just remarked, that you allowed yourself to be taken in by these people when you knew nothing whatever of the perseverance with which I and other competent men, eminently qualified to deal with the most difficult problems, had investigated these phenomena. You ought to have known that I explain everything you have seen by 'unconscious cerebration' and 'unconscious muscular action;' and if you had only a clear idea in your mind of the exact meaning of these two phrases, you would see that they are sufficient to account for everything."

"But, Sir—"

"Yes, yes; my explanations would clear away all the difficulties you have met with. I saw a great many Mesmerists and Clairvoyants, and it was all done by 'unconscious cerebration.' Whilst as to Table-turning, everyone knows how Faraday put down that. It is a pity you were unacquainted with Faraday's beautiful indicator; but, of course, a person who knew nothing of my writings would not have known how he showed that unconscious muscular action was sufficient to explain all these movements."

"Pardon me," I interrupted, "but Faraday himself showed——" But it was in vain, and on rolled the stream of unconscious egotism.

"Yes, of course; that is what I said. If you had known of Faraday's indicator and used it with Mr. Home, he would not have been able to go through his performance."

"But how," I contrived to ask, "could the indicator have served, seeing that neither Mr. Home nor anyone else touched the——"

"That's just it. You evidently know nothing of the indicator. You have not read my articles and explanations of all you saw, and you know nothing whatever of the previous history of the subject. Don't you think you have compromised the Royal Society? It is a great pity that you should be allowed there to revive subjects I put down ten years ago in my articles, and you ought not to be permitted to send papers in. However, we can deal with them." Here I was fain to keep silence. Meanwhile, my infallible interlocutor continued—

"Well, Mr. Crookes, I am very pleased I have had this opportunity of hearing these explanations from yourself. One learns so much in a conversation like this, and what you say has confirmed me on several points I was doubtful about before. Now, after I have had the benefit of hearing all about it from your own lips, I am more satisfied than ever that I have been always

right, and that there is nothing in it but unconscious cerebration and muscular action."

At this juncture some good Samaritan turned the torrent of words on to himself; I thankfully escaped with a sigh of relief, and my memory recalled my first interview with Faraday, when we discussed table-turning and his contrivance to detect the part played by involuntary muscular effort in the production of that phenomenon. How different his courteous, kindly, candid demeanour towards me in similar circumstances compared with that of the Quarterly Reviewer!

Now, let me ask, what authority has the reviewer for designating me a recent convert to spiritualism? Nothing that I have ever written can justify such an unfounded assumption. Indeed the dissatisfaction with which many spiritualists have received my articles clearly proves that they consider me unworthy of joining their fraternity. In my first published article the following sentences occur:—

"Hitherto I have seen nothing to convince me of the 'spiritual' theory. In such an enquiry 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."

"Accuracy and knowledge of detail stand foremost amongst the great aims of modern scientific 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."

"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 three distinct entities."

In a subsequent paper, I said that my experiments appeared to establish the existence of a new force connected, in some unknown manner, with the human organisation; but that it would be wrong to hazard the most vague hypothesis respecting the cause of the phenomena, the nature of this force, and the correlation existing between it and the other forces of nature. "Indeed," said I, "it is the duty of the enquirer to abstain altogether from framing theories until he has accumulated a sufficient number of facts to form a substantial basis upon which to reason." New forces must be found, or mankind must remain sadly ignorant of the mysteries of nature. We are unacquainted with a sufficient number of forces to do the work of the universe.

In a third paper, I brought forward many quotations from previous experimentalists, which showed that they did *not* ascribe the phenomena to spiritualism. I then said that the name *Psychic* had been chosen for the subject "because I was most desirous to avoid the foregone conclusions implied in the title under which it has hitherto been claimed as belonging to a province beyond the range of experiment and argument."

Do these quotations look like spiritualism? Does the train of thought running through them justify the Quarterly Reviewer in saying that "the lesson afforded by the truly scientific method followed by this great master of

experimental philosophy (Faraday) should not have been lost upon those who profess to be his disciples. But it has been entirely disregarded by men from whom better things might have been expected?"

I have devoted my enquiry entirely to those physical phenomena in which, owing to the circumstance of the case, unconscious muscular action, self deception, or even wilful fraud, would be rendered inoperative. I have not attempted to investigate except under such conditions of place, person, light, position, and observation, that contact was either physically impossible or could take place only under circumstances in which the unconscious or wilful movement of the hands could not vitiate the experiment. The experiments being tried in my own house, assumption of pre-arranged mechanical contrivances to assist the "medium" was out of the question.

The most curious thing regarding this article in the *Quarterly* is that the writer himself is a believer in a *new force*, and he arrogantly tries to put down any attempt to bring forward another. He refers to various hypotheses—to Sir William Hamilton's "latent thought," Dr. Laycock's "reflex action of the brain," and Carpenter's "ideo-motor principle." The reviewer adopts, without hesitation, Carpenter's hypothesis as the true and universal solvent of the phenomena in question, notwithstanding that this hypothesis is rejected by the physiologists most competent to judge it.

The whole tenor of the article, the numerous references to various "spiritual" phenomena, and the account of some of the reviewer's own experiences, show that he knows little or nothing of any such phenomena as those which I have commenced to investigate. He refers to mesmerism, curative influence, "planchette" writing, table-tilting, table-turning, and to the messages obtained by these means. When he does not impute fraud, he explains the physical movements by the hypothesis of "unconscious muscular action," and the intelligence which sometimes controls these movements, delivers messages, &c., by "unconscious cerebration" or "ideo-motor action."

Now these explanations are possibly sufficient to account for much that has come under the personal cognisance of the reviewer. I will do him the justice to believe that, as he affirms, he did take every opportunity within his reach of witnessing the higher phenomena of "spiritualism," and that on various occasions he met with results which were entirely unsatisfactory. The error into which he falls is this: Because he saw nothing that he thought worth following up, therefore it is impossible anyone else can be more fortunate. Because he and his scientific friends were following out the subject for more than a dozen years, therefore my own friends and myself deserve reprobation for pursuing the inquiry for about as many months.

According to this reasoning science would proceed very slowly. How often do we find instances of an abandoned investigation being taken up by another inquirer, who, more fortunate in his opportunities, carries it to a successful issue.

The reviewer has no grounds whatever for asserting that—

"He (Mr. Crookes) altogether ignores the painstaking and carefully conducted researches which had led men of the highest scientific eminence to an unquestioning rejection of the whole of those higher phenomena of 'mesmerism' which are now presented under other names as the results of 'spiritual' or 'psychic' agency."

Now I am quite familiar with these researches and with the various explanations of them so elaborately set forth by Dr. Carpenter and others. I made no reference to them, simply because the phenomena which came under their notice are entirely different from the phenomena I have examined. During my experiments I have seen plenty of instances of planchette writing, table-turning, table-tilting, and have received messages innumerable, but I have not attempted their investigation mainly for two reasons; first, because I shrank from the enormous difficulty and the consumption of time necessary to carry out an inquiry more physiological than physical; and, secondly, because little came under my notice in the way of messages or table-tilts which I could not account for.

My reviewer objects to the accordion being tried in a cage under the table. My object is easily explained. I must use my own methods of experiment. I deemed them good under the circumstances, and if the reviewer had seen the experiment before complaining it would have been more like a scientific man. But the cage is by no means essential, although, in a test experiment, it is an additional safeguard. On several subsequent occasions the accordion has played over the table, and in other parts of my room away from a table, the keys moving and the bellows action going on. An accordion was selected because it is absolutely impossible to play tricks with it when held in the manner indicated. I flatly deny that, held by the end away from the keys, the performance on an accordion "*with one hand* is a juggling trick often exhibited at country fairs," unless special mechanism exists for the purpose. Did ever the reviewer or any one else witness this phenomenon at a country fair or elsewhere? The statement is only equalled in absurdity by the argument of a recent writer, who, in order to prove that the accounts of Mr. Home's levitations could not be true, says, "An Indian juggler could sit down in the middle of Trafalgar Square, and then slowly and steadily rise in the air to a height of five or six feet, still sitting, and as slowly come down again." Curious logic this, to argue that a certain phenomenon is impossible to Mr. Home because a country bumpkin or an Indian juggler can produce it.

In the experiment with the board and spring balance the reviewer says that "the whole experiment is vitiated by the absence of any determination of the *actual downward pressure* of Mr. Home's fingers."

I maintain that this determination is as unnecessary as a determination of his "downward pressure" on the chair on which he was sitting or on his boots when standing. In reference to this point I said:—

"Mr. Home placed the tips of his fingers *lightly on the extreme end* of the mahogany board which was resting on the support."

"In order to see whether it was possible to produce much effect on the spring balance by pressure at the place where Mr. Home's fingers had been, I stepped upon the table and stood on one foot at the end of the board. Dr. Huggins, who was observing the index of the balance, said that the whole weight of my body (140 lbs.) so applied only sunk the index $1\frac{1}{2}$ lbs., or 2 lbs. when I jerked up and down. Mr. Home had been sitting in a low easy-chair, and could not, therefore, had he tried his utmost, have exerted any material influence on these results. I need scarcely add that his feet as well as his hands were closely guarded by all in the room."

"The wooden foot being $1\frac{1}{2}$ inches wide, and resting flat on the table, it is evident that *no amount of pressure* exerted within this space of $1\frac{1}{2}$ inches could produce any action on the balance."

But as this objection had been made by several persons, I devised certain experiments so as to entirely eliminate mechanical contact, and these experiments were fully described in my last paper.

To show the singular inaccuracy of the reviewer's statements and inferences, I give below in parallel columns, quotations from the *Quarterly Review*, to mark the contrast between its unfair statements and my own actual language as printed in the *Quarterly Journal of Science*.

(*Quarterly Review*, Oct., 1871).

"He admitted that he had not employed the tests which men of science had a right to demand before giving credence to the genuineness of those phenomena."

"He entered upon the inquiry, of which he now makes public the results, *with an avowed foregone conclusion of his own.*"

"This obviously deprives his 'conviction of their objective reality' of even that small measure of value to which his scientific character might have given it a claim if his testimony had been impartial?"

(*Quarterly Journal of Science*, July, 1870).

"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 [of the genuineness of certain phenomena] is the *result of most careful investigation.*"

"In the present case I prefer to enter upon the inquiry with no preconceived notions whatever as to what can or cannot be." . . . "At first, I believed that the whole affair was a superstition, or at least an unexplained trick." . . . "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.*" . . . "I cannot, at present, hazard even the most vague hypothesis as to the cause of the phenomena."

"*Views or opinions I cannot be said to possess on a subject which I do not pretend to understand.*" . . . "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."

On page 351 the reviewer insinuates that the early scientific training of myself and fellow-workers has been deficient. Speaking for myself, I may say that my scientific training could not well have commenced earlier than it did. Some time before I was sixteen I had been occupied in experimental work in a private physical laboratory. Then I entered the Royal College of Chemistry, under Dr. Hofmann, where I stayed six years. My first original research, on a complicated and difficult subject, was published when I was nineteen; and from that time to the present, my scientific education has been one continuous lesson in exactness of observation.

The following parallel passages show that my reviewer and myself differ but little in our estimates of the qualities required for scientific investigation.

(*Quarterly Review*, Oct., 1871.)

"Part at least of this predisposition" [towards spiritualism] "depends on the deficiency of early scientific training. Such training ought to include—1. The acquirement of habits of correct *observation* of the phenomena daily taking place around us; 2. The cultivation of the power of *reasoning* upon these phenomena, so as to arrive at *general principles* by the *inductive* process; 3. The study of the method of testing the validity of such inductions by *experiment*; and 4. The *deductive* application of principles thus acquired to the *prediction* of phenomena which can be verified by observation."

(*Quarterly Journal of Science*, July, 1870.)

"It will be of service if I here illustrate the modes of thought current among 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 men. No observations are of much use to the student of science unless they are truthful and made under test conditions." . . . "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."

The review is so full of perverse, prejudiced, or unwarranted mis-statements, that it is impossible to take note of them all. Passing over a number I had marked for animadversion, I must restrain myself to exemplifying a few of them.

The reviewer says that in my paper of July, 1870, my conclusion was "based on evidence which I admitted to be scientifically incomplete." Now in that paper I gave no experimental evidence whatever. After testifying emphatically as to the genuineness of two of the phenomena, I gave an outline of certain tests which in my opinion ought to be applied, and, in a foot note, I said that my preliminary tests in this direction had been satisfactory. Is this admitting that I had not employed such tests? Is it fair to say that my results were "based on evidence which I admitted to be scientifically incomplete?"

On p. 346, referring to the results obtained with the board and balance, my reviewer urges that it never seems to have occurred to me "to test whether the same results could not be produced by throwing the board into rhythmical vibration by an *intentional* exertion of muscular action!" Yet will it be believed that at p. 344 he gives in my own words an account of my trying this identical experiment; and if he had taken the trouble to refer to my other paper on p. 486 of the *Quarterly Journal of Science*, he would have seen that I had tested in like manner the special apparatus to which he alludes. Has the reviewer learnt to blow both hot and cold? has his memory faded? or has chagrin at missing the truth in his long investigations spoilt his temper?

The "fact" spoken of on p. 347, that myself and friends attributed to psychic force the rippling of the surface of water in a basin, when it was really produced by the tremor of a passing railway train, is, like many other of the reviewer's "facts," utterly baseless; but as he is careful to tell us that in this particular case the "fact" is *not* one of his own invention, what is to be said of his discretion in believing his "highly intelligent witness?" No such occurrence took place; nor will a passing railway train produce a ripple on the surface of water in the basin in my room. I invite the "highly intelligent witness" to verify the fact.

On p. 348, in speaking of Mr. Varley, the reviewer says that "his scientific attainments are so cheaply estimated by those who are best qualified to judge of them, that he has never been admitted to the Royal Society." It seems natural it should follow that Mr. Varley is a Fellow of the Royal Society; he was elected in June last. I seem to be safe in saying exactly the opposite of the reviewer.

Not to weary the reader, I will deal only with three more mis-statements, selecting instances where the reviewer conceives that he is perfectly sure of his facts. In these three instances the reviewer commences his attack upon me with the ominous words "we speak advisedly." If this expression has any meaning, it implies that the writer is more than ordinarily certain of the statement it prefaces—that he speaks with deliberate and careful consideration. Now I also speak "advisedly" when I affirm, with the proof in my hand, that two if not all of these three charges fulminated against me are either heedless or wilful misrepresentations.

The first charge is as follows:—

"Now we speak advisedly when we say that Mr. Crookes knew nothing whatever of the perseverance with which scientific men with whom he has never had the privilege of associating, qualified by long previous experience in inquiries of the like kind, had investigated these phenomena."

This spiteful statement is utterly false. I should think there are few persons in this country who have examined more carefully into the literature of the subject, or have read a greater number of books on spiritualism, demonology, witchcraft, animal magnetism, spiritual theology, magic, and medical psychology, in English, French, and Latin. In this list I have even included Dr. Carpenter's article on Electro-Biology and Mesmerism in the *Quarterly Review* for October, 1853.

The second well-considered charge runs as follows:—

"We also speak advisedly when we say that Mr. Crookes was entirely ignorant of the previous history of the subject, and had not even acquainted himself with the mode in which Professor Faraday had demonstrated the real nature of table turning."

As to my entire ignorance of the previous history of the subject, that I think is pretty well disposed of in the preceding paragraph.

In 1853 I was intimately acquainted with the late Robert Murray, at that time manager at Mr. Newman's, Philosophical Instrument Maker, Regent Street. I was in his shop several times a week, and in May and June of that year, Murray and I had many conversations on the subject of table turning. I well remember his telling me one day that Professor Faraday had given him the design of a test-apparatus by which he expected to prove that the rotation of the table was due to unconscious muscular action. A day or two after, he showed me the instrument which he was just about to send to Professor Faraday. At that time I was not unfrequently favoured by the late Rev. J. Barlow, Sec. R.I., with invitations to his house in Berkeley Street, and on one of these occasions on entering the room he thus accosted me:—"Mr. Crookes, I am glad you have come, we are doing a little table turning, and have just been trying Faraday's new instrument. He is here, let me introduce you to him." Professor Faraday, in his kindly genial manner, explained to me fully the action of his instrument, and instead of pooh-poohing the remarks of a mere boy—for I was only 21—listened to my objection that his instrument was based upon the assumption that the supposed acting force from the hands would pass through the glass rollers, and replied that he had thought of that, and had got over the difficulty by tying the two boards together so as to render them rigid, when it was found that the table rotated as well with the instrument as without it. Since then I have frequently employed this device of a long delicate indicator to magnify minute movements. Perhaps my reviewer is not aware that this device is one of the commonest in physical laboratories, and was in frequent use long before any of the present generation saw the light. I have adopted it from 1853 up to the present time. In my early experiments I availed myself of Professor Faraday's test-instrument, but recently, when I have frequently made it a *sine qua non* that the operator shall not touch the table or any portion of the instrument, as in Experiments III., IV., and VI.,* it would puzzle even the ingenuity of my reviewer to say how Faraday's instrument is to be applied. In such cases I adopt the well-known and superlatively delicate index, a ray of light.

The *Quarterly* goes on to magnify Faraday's experiment on table turning, utterly forgetting that Faraday did not come to a similar conclusion with the reviewer; at least, it was much more obscurely put if put at all. Faraday, so far as I know, never spoke of a latent power within us, of which we are unconscious, working in our muscles, and leading them to acts which culminate in a form of speech or writing by movements of a table. Faraday would have held this a sufficiently great novelty if put before him as I endeavour to put it before myself after reading the *Quarterly's* article. My belief, however, is that Faraday experimented with questionable phenomena only.

* *Quarterly Journal of Science*, Oct., 1871, p. 487 *et seq.*

The third charge in which the reviewer speaks "advisedly" runs thus:—

"For this discovery [Thallium] he was rewarded by the Fellowship of the Royal Society; but we speak advisedly when we say that this distinction was conferred on him with considerable hesitation."

In January, 1863, whilst the interest attaching to the discovery of the element Thallium was fresh in the minds of scientific men, I was both surprised and gratified at receiving the following note from Professor Williamson:—

" University of London,
Burlington House, W.,
16th Jan., 1863.

" My dear Sir,—I should be glad to see your name on the list of Fellows of the Royal Society, and if you have no objection to my doing so, would do myself the honour of proposing you for election into the Society. Could you spare a quarter of an hour on Monday afternoon to talk the matter over with me at University College, and oblige

" Yours very truly,

" ALEX. W. WILLIAMSON."

This kindness being entirely unsought was the more pleasing to me. At the interview, my certificate was partially filled up and left in Professor Williamson's hands for the purpose of obtaining the necessary signatures. After this meeting with Professor Williamson I took no further steps in the matter, and spoke to no one on the subject; but in due time Professor Williamson wrote that my certificate was duly received at the Royal Society and read at the meeting, adding—

" There is on the part of the chemists now on the Council a sincere appreciation of your high claims."

Subsequently, the same kind friend wrote—

" I have much pleasure in congratulating you and ourselves on your being one of the fifteen selected by the Council of the Royal Society for election."

I was formally elected on the 4th of June, 1863.

That discussion ensued when my name was brought before the Council follows as a matter of course. When fifteen only are to be elected from about fifty candidates, it is to be expected that the claims of each should be rigidly scrutinised; but whatever my anonymous reviewer may say "advisedly" on the subject, the *fact* remains that I was elected on the first application, an almost unheard-of honour for so young a man. Considering the large majority of eminent candidates whose election is postponed from year to year (sometimes even to ten years), there is no reason why my election should not have been postponed for at least one year, had there been truth in the statement that "considerable hesitation" was evinced in conferring this distinction upon me.

The grossness of the imputation, that the Royal Society admitted me although my investigations had only a merit purely *technical*, is astounding when the merits of the members generally are considered. I should consider them nearly all as purely technical workers in science, when they have done any work at all; but the curiosity is great when we find that the inquiry in question is purely technical. Professedly, it is a question of apparatus.

In entering upon an enquiry which I have endeavoured to keep within the limits of broad, tangible, and easily demonstrable facts, what qualities would common sense ask for in an investigator? Would an investigation be considered trustworthy were it conducted by a chemical dreamer who could spin off theory by the hour, and cover acres of paper with chemical symbols, but who in a laboratory would be unable to perform the simplest analysis, or build up a piece of chemical apparatus? Let it not, however, be supposed that I am unmindful of the philosophical and fructifying labours of Hofmann, Williamson, and others, in the field of Chemical Philosophy. But with reference to this enquiry, surely it should be conducted by one "who is trustworthy in an enquiry requiring technical knowledge for its successful conduct."

The reviewer assumes that the phenomenon of the suspension of heavy bodies in the air, the up and down movements of a wooden board, and the registration of the varying tension on a spring balance, are *psychical*, not *physical*; and he lays down a dictum that in such matter-of-fact results which I have obtained, one's own eyes must not be trusted, for in such a case "seeing is anything but believing." To show my unfitness for ascertaining the weight of a piece of wood, he accuses me of being ignorant of the knowledge of Chemical Philosophy! He does, however, from his Olympian height, condescendingly admit that my ability is *technical*, that I have made creditable use of my very limited opportunities, and intimates that I am trustworthy as to any inquiry which requires technical knowledge for its successful conduct. Now what does he mean by all this? I always thought that these qualities which are so contemptuously accorded me were just those of the highest value in this country. What has chiefly placed England in the industrial position she now holds but technical science and special researches?

But my greatest crime seems to be that I am a "specialist of specialists." I a specialist of specialists! This is indeed news to me, that I have confined my attention only to one special subject. Will my reviewer kindly say what that subject is? Is it general chemistry, whose chronicler I have been since the commencement of the "Chemical News" in 1859? Is it Thallium, about which the public have probably heard as much as they care for? Is it Chemical Analysis, in which my recently published "Select Methods" is the result of twelve years' work? Is it Disinfection and the Prevention and Cure of Cattle Plague, my published report on which may be said to have popularised Carbolic Acid? Is it Photography, on the theory and practice of which my papers have been very numerous? Is it the Metallurgy of Gold and Silver, in which my discovery of the value of Sodium in the amalgamation process is now largely used in Australia, California, and South America? Is it in Physical Optics, in which department I have space only to refer to papers on some Phenomena of Polarised Light, published before I was twenty-one; to my detailed description of the Spectroscope and labours with this instrument, when it was almost unknown in England; to my papers on the Solar and Terrestrial Spectra; to my examination of the Optical Phenomena of Opals, and construction of the Spectrum Microscope; to my papers on the Measurement of the Luminous Intensity of Light; and my description of my Polarisation Photometer? Or is my speciality Astronomy and Meteorology, inasmuch as I was for twelve months at the

Radcliffe Observatory, Oxford, where, in addition to my principal employment of arranging the meteorological department, I divided my leisure time between Homer and mathematics at Magdalen Hall, planet-hunting and transit taking with Mr. Pogson now Principal of the Madras Observatory, and celestial photography with the magnificent heliometer attached to the Observatory? My photographs of the Moon, taken in 1855, at Mr. Hartnup's Observatory, Liverpool, were for years the best extant, and I was honoured by a money grant from the Royal Society to carry out further work in connexion with them. These facts, together with my trip to Oran last year, as one of the Government Eclipse Expedition, and the invitation recently received to visit Ceylon for the same purpose, would almost seem to show that Astronomy was my speciality. In truth, few scientific men are less open to the charge of being "a specialist of specialists."

Whilst the scepticism of this reviewer in respect to the credibility of eminent witnesses, who give their names and detailed statements of definite facts, exceeds all reasonable bounds, his credulity in believing unattested statements of others, or in expecting his readers to give credit to all the absurd stories of his own experience, is refreshing in its simplicity. He gives five separate accounts of certain *séances*, where he saw something take place, but he condescends to few details; with one exception, no names or tests are given, nor is there a single clue by which the accuracy of his statements can be verified. The only case in which a name and anything like detail is given is an account of a visit to Mr. Foster. Amongst other strange things here recorded, but by no means satisfactorily accounted for, even by our reviewer, is the following:—

"We were not introduced to him by name, and we do not think that he could have had any opportunity of knowing our person. Nevertheless, he not only answered in a variety of modes the questions we put to him respecting the time and cause of the death of several of our departed friends and relatives whose names we had written down on slips of paper which had been folded up and crumpled into pellets before being placed in his hands; but he brought out names and dates correctly in large red letters on his bare arm, the redness being produced by the turgescence of the minute vessels of the skin, and passing away after a few minutes like a blush."

The accurate answers to the reviewer's questions are supposed to be explained by "unconscious ideo-motor action," which, like "unconscious cerebration," is to explain all phenomena, past, present, and to come. Respecting the latter phenomenon, he says—"The trick by which the red letters were produced was discovered by the enquiries of our medical friends." If the reviewer will not believe my plain statement of facts fortified by eminent witnesses, how does he expect his readers to believe these statements on the simple word of an anonymous writer? His "gullibility," to use his own coarse, but expressive word, is strongly shown in his implicit belief of an obviously exaggerated account given by the well-known Robert Houdin of the way in which he and his son performed some of their tricks.

It is curious to note how Dr. Carpenter is made to pervade the *Quarterly Review* article. The reviewer throughout the article unconsciously manifests his implicit conviction that Dr. Carpenter is to be regarded as the paramount

authority in reference to the subtle psychological questions involved in the so-called spiritualistic phenomena. The theories of the profound psychologists of Germany, to say nothing of those of our own countrymen, are made quite subsidiary to the hypotheses of Dr. William Carpenter. An unquestioning and infatuated belief in what Dr. Carpenter says concerning our mental operations has led the reviewer wholly to ignore the fact that these speculations are not accepted by the best minds devoted to psychological inquiries. I mean no disrespect to Dr. Carpenter, who, in certain departments, has done some excellent scientific work, not always perhaps in a simple and undogmatic spirit, when I "speak advisedly" that his mind lacks that acute, generalising, philosophic quality which would fit him to unravel the intricate problems which lie hid in the structure of the human brain.

Here I must bring this enforced vindication to a close. The self-reference to which I have been constrained is exceedingly distasteful to me. I forbear to characterise with fitting terms the spirit of this attack upon a scientific worker; it is enough that I have proved that in ten distinct instances the reviewer has deliberately calumniated me. It is a heavy and a true charge to bring against anyone occupying the reviewer's position amongst scientific men.

I cannot refrain from citing from the *Birmingham Morning News* the following trenchant criticism from the pen of an eminent chemist—himself a disbeliever in "Spiritualism." It will serve, as one instance amongst many, to show the feeling of disgust which the article in the *Quarterly Review* has excited among scientific men, whatever their opinions on this topic may be. After a few prefatory remarks, the writer goes on to say:—

"Either a new and most extraordinary natural force has been discovered, or some very eminent men specially trained in rigid physical investigation have been the victims of a most marvellous, unprecedented, and inexplicable physical delusion. I say unprecedented, because, although we have records of many popular delusions of similar kind and equal magnitude, and speculative delusions among the learned, I can cite no instance of skilful experimental experts being utterly, egregiously, and repeatedly deceived by the mechanical action of experimental test apparatus carefully constructed and used by themselves.

"As the interest in the subject is rapidly growing both wider and deeper, as a very warm discussion is pending, and further and still more extraordinary experimental revelations are in reserve, my readers will probably welcome a somewhat longer gossip on this than I usually devote to a single subject.

"Such an extension is the more demanded as the newspaper and magazine articles which have hitherto appeared, have, for the most part, by following the lead of the *Quarterly Review*, absurdly muddled the whole subject, and ridiculously mis-stated the position of Mr. Crookes and others. In the first place all these writers that follow the *Quarterly* omit any mention or allusion to Mr. Crookes's preliminary paper published in July, 1870, but which has a

most important bearing on the whole subject, as it expounds the object of all the subsequent researches.

"Mr. Crookes there states, that 'Some weeks ago the fact that I was engaged in investigating Spiritualism, so-called, was announced in a contemporary (*The Athenæum*), and, in consequence of the many communications I have since received, I think it desirable to say a little concerning the investigations which I have commenced. Views or opinions I cannot be said to possess on a subject which I do not profess to understand. I consider it the duty of scientific men, who have learned 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.' He then proceeds to state the case of Science *versus* Spiritualism, thus:—'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 to the ceiling, shall also cause his delicately-poised balance to move under test conditions.' 'The Spiritualist tells of rooms and houses being shaken, even to injury, by super-human power. The man of science merely asks for a pendulum to be sent 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 part of a grain of arsenic to be carried through the sides of a glass tube in which pure water is hermetically sealed.'

"These and other requirements are stated by Mr. Crookes, together with further exposition of the principles of strict inductive investigation, as it should be applied to such an inquiry. A year after this he published an account of the experiments which I described in a former letter, and added to his own testimony that of the eminent physicist and astronomer Dr. Huggins, and Serjeant Cox. Subsequently, that is, in the last number of the *Quarterly Journal of Science*, he has published the particulars of another series of experiments.

"I will not now enter upon the details of these, but merely state that the conclusions of Mr. Crookes are directly opposed to those of the Spiritualists. He utterly, positively, distinctly, and repeatedly repudiates all belief in the operations of the supposed spirits, or of any other supernatural agency whatever, and attributes the phenomena he witnessed to an entirely different origin, viz., to the direct agency of the medium. He supposes that the force analogous to that which the nerves convey from their ganglionic centres to the muscles, in

producing muscular contraction, may, by an effort of the will, be transmitted to external inanimate matter, in such a manner as to influence in some degree its gravitating power, and produce vibratory motion. He calls this the *psychic force*.

"Now, this is direct and unequivocal *anti-spiritualism*. It is a theory set up in opposition to the supernatural hypotheses of the Spiritualists, and Mr. Crookes's position in reference to Spiritualism is precisely analogous to that of Faraday in reference to table-turning. For precisely the same reasons as those above quoted, the great master of experimental investigation examined the phenomena called table-turning, and he concluded that they were due to muscular force, just as Mr. Crookes concludes that the more complex phenomena he has examined are due to psychic force.

"Speaking of the theories of the Spiritualists, Mr. Crookes, in his first paper (July, 1870), says:—

"The pseudo-scientific Spiritualist professes to know everything. No calculations trouble his serenity; no hard experiments, no 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 inquirer with terms like 'electro-biologise,' 'psycologise,' 'animal magnetism,' &c., a mere play upon words, showing ignorance rather than understanding."

"And further on he says:—

"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 more logical conclusions."

"I have already referred to the muddled mis-statement of Mr. Crookes's position by the newspaper writers, who almost unanimously describe him and Dr. Huggins as two distinguished scientific men who have recently been converted to Spiritualism. The above quotations, to which, if space permitted, I might add a dozen others from either the first, the second, or third of Mr. Crookes's papers, in which he as positively and decidedly controverts the dreams of the Spiritualists, will show how egregiously these writers have been deceived. They have relied very naturally on the established respectability of the *Quarterly Review*, and have thus deluded both themselves and their readers. Considering the marvellous range of subjects these writers have to treat, and the acres of paper they daily cover, it is not surprising that they should have been thus misled in reference to a subject carrying them considerably out of their usual track; but the offence of the *Quarterly* is not so venial. It assumes, in fact, a very serious complexion when further investigated.

"The title of the article is "Spiritualism and its Recent Converts," and the 'recent converts' most specially and prominently named are Mr. Crookes and Dr. Huggins. Serjeant Cox is also named, but not as a *recent* convert; for the reviewer describes him as an old and hopelessly infatuated Spiritualist.*

* It is due to Mr. Serjeant Cox to state that, so far from being an old Spiritualist, he had seen nothing of Spiritualism until he joined the Investigation Committee of the Dialectical Society, confident that he should thus assist in dissipating a delusion or detecting an imposture; but by that elaborate examination he was satisfied (as he states in his Report) that many of the asserted phenomena are genuine, but that there was no evidence whatever to support the theory of Spiritualism; that he was convinced by what he had seen that the Force was a purely psychical one and in no way produced by spirits of the dead. He is, in fact, a decided

Knowing nothing of Serjeant Cox, I am unable to say whether the reviewer's very strong personal statements respecting him are true or false—whether he really is “one of the most gullible of the gullible,” &c., though I must express my detestation of the abominable bad taste which is displayed in the attack which is made upon this gentleman. The head and front of his offending consists in having certified to the accuracy of Mr. Crookes's account of certain experiments; and for having simply done this, the reviewer proceeds, in accordance with the lowest tactics of Old Bailey advocacy, to bully the witness, and to publish disparaging personal details of what he did twenty-five years ago.

“Dr. Huggins, who has had nothing further to do with the subject than simply to state that he witnessed what Mr. Crookes described, and who has not ventured upon one word of explanation of the phenomena, is treated with similar insolence.

“The reviewer goes out of his way to inform the public that Dr. Huggins is, after all, only a brewer, by artfully stating that, ‘like Mr. Whitbread, Mr. Lassell, and other brewers we could name, Dr. Huggins attached himself, in the first place, to the study of Astronomy.’ He then proceeds to sneer at ‘such scientific amateurs,’ by informing the public that they ‘labour, as a rule, under a grave disadvantage, in the want of that broad basis of scientific culture which alone can keep them from the narrowing and pervertive influence of a limited *specialism*.’ The reviewer proceeds to say that he has ‘no reason to believe that Dr. Huggins constitutes an exception’ to this rule, and further asserts that he is justified in concluding that Dr. Huggins is ignorant of ‘every other department of science than *the small subdivision of a branch* to which he has so meritoriously devoted himself.’ Mark the words, ‘small subdivision of a branch.’ Merely a twig of the tree of science is, according to this most unvarnished writer, all that Dr. Huggins has ever studied.

“If a personal vindication were the business of this letter, I could easily show that these statements respecting the present avocations, the scientific training, and actual attainments of Dr. Huggins are most gross and atrocious misrepresentations; but Dr. Huggins has no need of my championship,—his high scientific position and the breadth and depth of his general attainments are sufficiently known to all in the scientific world, with the exception of the *Quarterly Reviewer*. My object is not to discuss the personal question whether book-making and dredging afford better or worse training for experimental inquiry than the marvellously exact and exquisitely delicate manipulations of the modern observatory and laboratory, but to protest against this attempt to stop the progress of investigation, to damage the true interests of science and the cause of truth, by thus throwing low libellous mud upon any and every body who steps at all aside from the beaten paths of ordinary investigation. The true business of science is the discovery of truth, to seek it wherever it may be found, to follow the pursuit through bye-ways and high-

opponent of the theory of the Spiritualists, and has just published a book detailing his experiments, entitled “Spiritualism Answered by Science.” The writer of the article in the *Quarterly* must have been quite aware of this fact, for he actually cites a passage from the letter to me in which letter Mr. Serjeant Cox expressly repudiates the theory of Spiritualism.—W. C.

ways, and, having found it, to proclaim it plainly and fearlessly, without regard to authority, fashion, or prejudice. If, however, such influential magazines as the *Quarterly Review* are to be converted into the vehicles of artful and elaborate efforts to undermine the scientific reputation of any man who thus does his scientific duty, the time for plain speaking and vigorous protest has arrived. My readers will be glad to learn that this is the general feeling of the leading scientific men of the metropolis; whatever they may think of the particular investigations of Mr. Crookes, they are unanimous in expressing their denunciations of this article in the *Quarterly*.

"The attack upon Mr. Crookes is still more malignant than that upon Dr. Huggins. Speaking of Mr. Crookes's Fellowship of the Royal Society, the reviewer says, 'We speak advisedly when we say that this distinction *was conferred on him with considerable hesitation*;' and further, that 'We are assured, on the highest authority, that he is regarded among chemists as a specialist of specialists, *being totally destitute of any knowledge of chemical philosophy, and utterly untrustworthy as to any inquiry which requires more than technical knowledge for its successful conduct.*' The italics in these quotations are my own, placed there to mark certain statements to which no milder term than that of falsehood is applicable.

* * * *

"If space permitted, I could go on quoting a long series of mis-statements of matters of fact from this singularly unveracious essay. The writer seems conscious of its general character, for, in the midst of one of his narratives, he breaks out into a foot-note, stating that '*This is not an invention of our own, but a fact communicated to us by a highly intelligent witness, who was admitted to one of Mr. Crookes's sésances.*' I have taken the liberty to emphasise the proper word in this very explanatory note.

"The full measure of the injustice of prominently thrusting forward Dr. Huggins and Mr. Crookes as 'recent converts' to Spiritualism will be seen by comparing the reviewer's own definition of Spiritualism with Mr. Crookes's remarks above quoted. The reviewer says that 'The fundamental tenet of the Spiritualist is the old doctrine of communication between the spirits of the departed and the souls of the living.' This is the definition of the reviewer, and his logical conclusion is that Mr. Crookes is a Spiritualist because he explicitly denies the fundamental tenet of Spiritualism, and Dr. Huggins is a Spiritualist because he says nothing whatever about it.

"If examining the phenomenon upon which the Spiritualist builds his 'fundamental tenet,' and explaining them in some other manner, constitutes conversion to Spiritualism, then the reviewer is a far more thorough-going convert than Mr. Crookes, who only attempts to explain the mild phenomena of his own experiments."

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For six months past false and injurious reports concerning me and my recent investigations have been assiduously circulated in scientific circles. Although aware of their existence and their origin, I forbore to take public notice of them, thinking that their inherent falsehood would

weight them too heavily to allow them to float long. The appearance of the *Quarterly* reviewer's attack on me, however, appears to have encouraged my calumniator, and, emboldened by my prolonged silence, a letter was sent to the *Echo* newspaper signed "B.,"* in which the writer put in a definite shape some of these ugly rumours, giving as his authority a certain "Mr. J." Not caring to carry on a paper war with an anonymous slanderer, I demanded that the mask should be dropped, when Mr. John Spiller, F.C.S., came briskly to the front, and in the *Echo* of November 6th accepted the responsibility of "B.'s" calumnies, adducing in corroboration of them a long letter he sent to me six months before—a letter having no relation whatever to the falsehoods related by "B."

A reply to definite accusations, made by a man possessing a certain reputation in the chemical world, is imperatively necessary, and regard for my own reputation makes me decide that my vindication shall be neither halting in language nor doubtful in meaning. And first let me show how little Mr. Spiller knows of the subject on which he speaks so positively. He came to my house unexpectedly one evening in April last, when Mr. Home and some friends had been dining with me. On that occasion nothing worth recording took place: in fact, it was not until some weeks later that my accordion was purchased, and my experimental apparatus devised. Mr. Spiller, however, appeared so struck with the little he did see that he begged me to invite him on similar occasions as often as I could. Mr. Serjeant Cox having given me a general permission to bring to his house any gentleman who took an interest in the subject, in accordance with this permission I invited Mr. Spiller to accompany me on April 25th to a strictly private party, when Mr. Home was expected. Had I thought him capable of committing so gross a breach of the laws of hospitality and good breeding as to publish a garbled and untruthful account of what took place in the privacy of a gentleman's dining-room, I should certainly have considered him not included in that general permission. However, we assembled, and before sitting down it was agreed by the gentlemen present that any objection on the score of suspected trick should be taken at the time, so that it might be subjected to instant proof or disproof. To this condition Mr. Spiller fully agreed.

The meeting at Mr. Serjeant Cox's was not one of my series of "test séances," as Mr. Spiller tries to make out, but was purely private, and quite unconnected with the experiments described in the *Quarterly Journal of Science*. It was a preliminary trial, to enable me to judge what class of phenomena could be easiest verified, and what sort of test apparatus I should devise. Mr. Spiller was never present at any test experiments, and saw Mr. Home only on the two occasions I have mentioned.

During the meeting at Mr. Serjeant Cox's many striking phenomena took place, and Mr. Spiller, being a stranger, was specially invited by Mr. Home to examine everything to his heart's content, and move about or get under the table whenever he liked. In accordance with my usual habit of taking notes, I was writing the whole time when I was not scrutinising the occurrences, and it was, therefore, easy not only to take down a description of

* *Echo*, Oct. 31, 1871.

the phenomena as they occurred, but also to record the actual words or comments used by each person present. From time to time I repeated aloud what I had written, and asked the company if it were correct; when any correction was supplied it was invariably adopted. The narrative of the proceedings was written in full immediately after, and a copy was sent to Mr. Spiller, as well as to others who had been present, for them to approve or alter. Mr. Spiller has dignified this paper by the name of an affidavit, whereas it was purely a private memorandum, never intended to be made public, and only drawn up so that each person might possess a thoroughly truthful account of what was considered at the time to be a very remarkable series of occurrences.

I have before me the paper which Mr. Spiller returned, corrected in pencil, and each correction signed with his initials. Where he has not corrected it is clear that he tacitly assents. His objections are of an utterly insignificant kind, and, comparing what he accepts with what he rejects, it will be seen that he strains at gnats while he swallows camels.

It now appears that Mr. Spiller totally disregarded the agreement assented to by all present—to speak out at the time, and thus to invite and facilitate the most searching inquiry. He arrogates to himself the position of an infallible judge instead of an honest inquirer. Whilst he professed to act openly and above-board, he was really carrying on furtive observations of his own. He recklessly discredits the other witnesses who were present, and expects the world to believe his own unsupported assertion. Brought forward at the time, his observations might have been of service, whilst at this distant date they are valueless. Mr. Spiller seems to imagine that, whilst everything else in nature is to be tested by careful experiment, his own hasty conclusions are to be accepted unchallenged.

The first accusation launched at me by Mr. Spiller is of a suppression of the truth. I am said to have recorded certain phenomena in the *Quarterly Journal of Science*, and to have ascribed their production to the action of a hitherto unknown form of force, notwithstanding that Mr. Spiller had explained to me six months previously the "tricks" by which these things were done.*

From the various forms under which this accusation has been repeated it appears that Mr. Spiller is trying to establish, either that he was present at the test experiments on which my papers in the *Quarterly Journal of Science* were based, or that these papers were but a narrative of what took place in his presence at Mr. Serjeant Cox's. Now I have published no narrative whatever of any experiments at which Mr. Spiller was present, neither have I referred to them in any of my papers. His assertion, therefore, under whichever form it is viewed, is false.

In the *Echo* of November 10th I have gone fully into the analysis of these several accusations, and by placing in parallel columns extracts from Mr. Spiller's printed letters and statements, plainly convicted him in each case of a direct mis-statement of fact.

To show how ignorant I was of his reputed explanations of the few

* *Echo*, Nov. 6, 1871.

trifling things he thought he found out at Mr. Serjeant Cox's, and how unsuccessfully I begged him to give the information he now says I was aware of, I need only quote from a letter I wrote him on May 24th last. It runs as follows:—

"You have now for the third time given a very mysterious hint that you are in possession of a fact which would make me entirely alter my opinion about Mr. Home. Now I put it to you whether it would not be more consistent with our friendship for you to tell me fairly and candidly what you do know rather than keep me in suspense, week after week. You say it is impossible for you to write about it. That is a word I do not understand. If you will give me a plain statement of facts, and will not insinuate dishonest conduct on the part of myself and family, I promise you that I shall not only be very grateful to you, but will give what you tell me the most serious attention."

Mr. Spiller never came, and to my earnest appeal to put me in possession of his concealed facts I received no answer. And yet he has the audacity to say that I was perfectly aware of his explanation of the phenomena he witnessed!

But it is further reported that Mr. Spiller was my assistant during my test experiments, and found out at my house how the accordion "trick" was done.* Mr. Spiller was not my assistant, nor was he present at my house on any occasion when an accordion or any sort of apparatus was used. I refer to what he said about the only occasion when he ever saw an accordion in the same room with Mr. Home. I quote from a letter he wrote to me on May 3rd:†—"The accordion business [at Mr. Serjeant Cox's] was rather curious, but then I was *not* under the table at the time of 'The Last Rose of Summer' being played." After experience of Mr. Spiller's logical method I am not surprised at the inference that this is the same thing as being under the table and finding out how the trick was done.

It would occupy too much space to re-state the accordion problem, but I will refer all who are interested to my description in the *Quarterly Journal of Science* for July last. If Mr. Spiller has really found out how this "trick" is done, why does he not publish it? for he would then have solved one of the most puzzling problems ever presented to his notice—a problem still unsolved by far wiser heads than his.

Debarred by the editor of the *Echo* from making further use of the columns of that journal, Mr. Spiller retreats to the pages of the *English Mechanic*,‡ where he reiterates accusations the falsity of which I have before exposed by means of his own letters. He complains that his previous perverse mis-statements and personal misrepresentations have brought him under sharp criticism. Of course they have; but this criticism is simply a consequence of his own unwarrantable attack. I cannot argue with my detractor about psychic force, or the explanation of the phenomena recorded at my test *séances*, for the sufficing reason that he was never present at any of these experiments, and he has had no opportunity of knowing anything of the subject except from my published papers. Professing to criticise my investigations, he carefully avoids all reference to any of these papers, and keeps

* *English Mechanic*, Nov. 3, 1871.

† Published by Mr. Spiller in the *Echo* for November 6, 1871.

‡ *English Mechanic*, Dec. 1, 1871.

harping on a weak remark of his own about the size of what he calls a "monster" locket attached to Mr. Home's watch-chain. A stranger to the circumstances would imagine that something very important turned upon the exact dimensions and reflecting power of this trinket. But what are the facts? In his letter to me of May 3rd,* speaking of an accordion which he saw playing at Mr. Serjeant Cox's in Mr. Home's hand, Mr. Spiller says that he "saw a flash of light whilst under the dining-room table"—a reflection from the "*shining surface*" of this locket; and on October 31st† his friend "B." gives (and he endorses) an entirely different tale about this light, which we are now told for the first time "was playing about Mr. Home's fingers as they lay in his lap,"—produced by the reflection from the "*polished reverse side*" of the locket in question. Speaking for myself, I saw nothing of this alleged light, nor did Mr. Home draw attention to it. My part in the transaction was simple. Mr. Spiller was the critical observer under the table on this occasion, and all I did was to write down what he said. In my notes written at the time, and acquiesced in by nine witnesses, I read—"Mr. Spiller declared that the accordion appeared self luminous while it was playing." He subsequently denied this. He is welcome to do so, for it is a matter of no consequence whether he saw a light at all; the real question is, Did the accordion play and how was it played? Whether Mr. Spiller observed any light at all, the source of the light he said he saw, or the size of one of Mr. Home's trinkets, has nothing whatever to do with the subject of my investigations. The locket might be as big as a dinner-plate, and might be polished to the lustre of a speculum; the light it reflected might be as bright as the noon-day sun, and all that it would prove would be my calumniator's incompetency as an observer for not discovering it, or his inaccuracy as a witness for not mentioning it at the time when instant verification or disproof was possible.

Mr. Spiller speaks on one occasion of the "*shining surface*" of this locket; on another of its "*polished reverse side*;" whilst on a third occasion he draws attention to the fact that platinum is "a white metal sometimes used for reflectors." Now to these inconsequential assertions I will oppose facts. The locket in question is now before me. Its obverse and reverse are almost identical, and the whole is so covered with ornamental engraving that there is not a particle of polished platinum about it. Moreover, on each side there are fifteen raised metallic ornaments of different shapes, which still further diminish the amount of light reflected from the surface. I have, moreover, carefully examined the optical properties of this locket. Tested in an accurate photometer, the reflecting power of each side is found to be equal to that of a silvered glass speculum 1·8 millimetres (less than 1-10th of an inch) square! I advise Mr. Spiller to keep silent about this "monster" locket in future, or, like a second Frankenstein, he will find he has conjured up a monster from his own inward consciousness which will devour his reputation.

But, of all the unfounded statements which my disingenuous assailant has circulated, the most outrageous is that he has been threatened with legal proceedings‡

* Echo, Nov. 6, 1871.

† Echo, Oct. 31, 1871.

‡ English Mechanic, Dec. 1, 1871.

because he refused to sign the narrative I sent him of the proceedings at his *séance* at Mr. Serjeant Cox's. Now, although the intrinsic absurdity of such a threat, made under the very eyes of a serjeant learned in the law, must be patent to everyone, it is necessary for me to state, which I do in the most emphatic manner, that this disgraceful accusation is *totally untrue*. I have never threatened Mr. Spiller with legal proceedings; I have never given him the remotest hint of such a thing; never did such a thought enter my mind; and nothing that he has ever said or written in connection with this controversy could induce me for a moment to entertain the idea of legal proceedings.*

I hope I have now finished with the, to me, uncongenial task of combating perverse mis-statements and refuting personal misrepresentations; and that I may be able to devote myself once more to quiet research.

* Since this was written Mr. Spiller has been made to withdraw his accusation (*English Mechanic*, Dec. 22, 1871). The ungracious manner in which he eats his offensive words "*I was threatened with legal proceedings*" shows that his anxiety to say something spiteful has led him to say the thing that was not.