

## PROCEEDINGS OF THE GENERAL MEETING ON

*July 10th, 1885.*

The sixteenth General Meeting of the Society was held at the Rooms of the Society of British Artists, Suffolk Street, Pall Mall, on Friday, July 10th, 1885.

PROFESSOR BALFOUR STEWART, F.R.S., PRESIDENT, IN THE CHAIR.

Mr. Malcolm Guthrie read part of the following paper :—

## III.

FURTHER REPORT ON EXPERIMENTS IN THOUGHT-  
TRANSFERENCE AT LIVERPOOL.

BY MALCOLM GUTHRIE, J.P.

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In November, 1883, I read a paper before the Society for Psychical Research on some experiments in thought-transference carried on by Mr. James Birchall and myself, many of them in the presence of various members of the Literary and Philosophical Society of Liverpool, who took an interest in the investigation. The experiments were resumed and carried on till Christmas, when I was obliged, by ill-health, to discontinue all further intellectual work.

However, as I had commenced the investigations, and as it appeared that the cases of the possession of the power were very few, I considered it my duty to pursue the inquiry in the interests of science; and my first endeavour was to secure the aid of some good scientific authorities. I first asked my cousin, Dr. Guthrie, Professor of Physics at South Kensington, to be present. He, however, was only able to attend one evening and part of another, and expressed no opinion. I therefore made it a rule that I would entrust the investigation to no one who would not promise to attend four evenings at least, as, moreover, I found the presence of strangers sometimes disconcerting. In the spring of 1884 I was fortunate enough to secure the assistance of Dr. Lodge, Professor of Physics, University College, Liverpool, whose report was presented to our Society and was published in Vol. II. of the *Proceedings*. This report vouched for the genuineness and accuracy of the experiments, and contained an account of some new arrange-

ments. In the autumn I also had the company of Dr. Herdman, Professor of Biology at the same college. We were sufficiently successful under his observation, but not as much so as previously.

In the summer we lost the services of one of our percipients, Miss Edwards, who left to be married and was no longer available. Miss Relph, however, kindly continued to give her assistance at meetings during the autumn, which were attended by Dr. Herdman, Mr. R. C. Johnson, F.R.A.S., Mr. H. E. Rensburg, and others.

At Christmas there was an interregnum, owing to Miss R. suffering from a quinsey, and we did not resume work until the month of April. Dr. Herdman was not able to attend, on account of extra work connected with the new marine biology studies; but he recommended three medical men, of whom one only, Dr. Hyla Greves, was able to take up the inquiry. Dr. Hicks, President of the Microscopical Society of Liverpool, also joined in the inquiry; and these two gentlemen have both expressed themselves as perfectly satisfied with the fact of the mental transference of impressions without contact from one person to another, as exhibited by our varied experiments. Throughout the studies of the autumn and winter I have had the valuable assistance of Mr. R. C. Johnson, and of Mr. James Birchall, the hon. secretary of the Literary and Philosophical Society of Liverpool.

I have noticed a falling off in the facility and success of our experiments since our first great results were obtained. I do not know to what cause to attribute this declension. Personally, I find I am not equal to my former self in my power to give off impressions, and if I exert myself to do so I experience unpleasant effects in the head and nervous system. I therefore seldom join in the active experiments, but leave the thinking for the most part to others. Then we have lost one of our percipients; and as the novelty and vivacity of our séances has departed there is not the same geniality and freshness as at the outset. The thing has become monotonous, whereas it was formerly a succession of surprises. We have now nothing new to try. I do not know if there is loss of power on the part of the percipient; it is just as likely that the agents are in fault.

I have been, I need hardly say, very anxious to find additional cases of percipiency, and I have induced quite a number of people to make trials in this direction, but hitherto without any satisfactory result. I have, indeed, heard of several apparently genuine cases, but have never been able to get at them. There has always been a reticence which has caused me to meet with disappointment, when I have expressed a desire for a scientific investigation. Some cases reported to me turned out to be simply varieties of the willing-game done under contact, and evidently the result of unconscious muscular indications. One case I investigated, in which five or six

persons were supposed to possess the power, was evidently explainable by the limited number of objects experimented with, all known to the supposed percipients, and conjured up by them in the mind's eye. This was merely a case of guessing.

I have not much in the way of novelty to report beyond my previous range of experiments. These included the successful transfer, with and without contact, of (a) visual impressions, actual and imagined, extending up to complicated pictures; (b) impressions of pains under contact, and (c) impressions of tastes and smells under contact; (d) impressions of names and numbers, with and without contact; (e) willing without contact. Dr. Lodge tried the remarkable experiment of two independent visual impressions, transferred at the same time by two agents to the mind of one percipient, which resulted in a combined impression, in which the two originals were absolutely united. At the suggestion of Dr. Herdman, we tried pains without contact. The percipient, blindfolded and isolated, sat with her back towards the company, who simultaneously inflicted upon themselves a pain in a given spot, and this has been repeatedly indicated with great exactness by the percipient. Another novelty has been the transference of imagined tunes. This has not been done without contact, and naturally gave rise to the inquiry whether the notion of tune could have been transferred by muscular indications. We therefore tried to transfer tunes by muscular indications to all the persons present, but failed; and it seems not unreasonable to suppose that a person who is on his guard can prevent himself from conveying the sharply-defined rhythm of a tune by a series of pats or sudden pressures on another person's hand; and also that without *consciousness* of the rhythmic indications on the percipient's part, the tune could not be identified.

Some recent experiments in the presence of Dr. Greves have been a little remarkable as illustrating the phenomena of inversion and reminiscence. It has been observed that visual impressions are sometimes given right as left, and left as right. In many cases lately pains have been correctly localised, but placed on the right side of the body instead of the left, and on the left side instead of the right. Then as to reminiscence—in some taste experiments recently, it happened three times running that the taste which the percipient described was not the one which the agent was at that moment tasting, but the one which he had been tasting in the preceding trial a minute before, none of the substances having been named during the course of the experiments. In looking back over the volumes of diagrams I possess, I find that a good many which I considered failures at the time are evidently due to reminiscence of the preceding diagram which had not, in the majority of instances, been shown to the percipient in the interval. My atten-

tion was first called to a case of this kind by Dr. Guthrie in regard to one of the drawings executed in his presence.

We have now a record of 713 experiments, and I recently set myself the task of classifying them into the 4 classes of successful, partially successful, misdescriptions, and failures. I endeavoured to work it out in what I thought a reasonable way, but I experienced much difficulty in assigning to its proper column each experiment we made. This, however, is a task which each student of the subject will be able to undertake for himself according to his own judgment. I do not submit my summary as a basis for calculation of probability. A few successful experiments of a certain kind carry greater weight with them, than a large number of another kind; for some experiments are practically beyond the region of guesses. I doubt, indeed, if any amount of calculation of probabilities will help to convince of the trustworthiness of the experiments. One successful evening when the conditions are strict is absolutely convincing; and the simple genuine truthfulness of the percipients is a better guarantee than any amount of subsequent cross-examination as to the conditions of trial.

The following is a summary of the work done, classified to the best of my judgment.

## FIRST SERIES.

Experiment and Conditions.	Total.	Nothing perceived.	Complete.	Partial.	Misdescriptions.
Visual—Letters, figures, and cards—Contact .....	26	2	17	4	3
do. do. do. Non-contact...	16	0	9	2	5
Visual—Objects, colours, &c.—Contact .....	19	6	7	4	2
do. do. do. Non-contact .....	38	4	28	6	0
Imagined visual.—Non-contact .....	18	5	8	2	3
Imagined numbers and names—Contact and Non-contact .....	39	11	12	6	10
Pains—Contact .....	52	10	30	9	3
Tastes and smells—Contact .....	94	19	42	20	13
	302	57	153	53	39
Diagrams—Contact .....	37	7	18	6	6
do. Non-contact .....	118	6	66	23	23
	457	70	237	82	68

There were also 40 diagrams for experimental evenings with strangers, in series of sixes and sevens, all misdrawn, and not fairly to be reckoned in the above.

457 experiments under proper conditions.  
70 nothing perceived.

387

319 wholly or partially correct; 68 misdescriptions = 18%.

2 E 2

## SECOND SERIES.

Experiment and Conditions.	Total.	Nothing perceived.	Complete.	Partial.	Misdescribed.
Visual—Various objects—Contact .....	18	3	7	7	1
do. do. Non-contact .....	15	6	2	3	4
Visual—Cards, &c.—Contact .....	18	1	7	2	8
do. Non-contact .....	3	—	—	—	3
Imagined visual .....	1	1	—	—	—
Imagined numbers and names—Contact and Non-contact .....	1	—	—	—	1
Pains—Contact .....	21	—	6	7	8
Tastes and smells—Contact .....	6	—	1	2	3
	83	11	23	21	28
Diagrams—Contact .....	8	2	4	2	—
do. Non-contact .....	32	2	12	11	7
	123	15	39	34	35

Total ... ..	123	Complete and partial ...	73
Nothing perceived ...	15	Misdescriptions ...	35
	108		108

This table exhibits 32% failures, as against 18% of the first set.

## THIRD SERIES.

Experiment and Conditions.	Total.	Nothing perceived.	Complete.	Partial.	Misdescribed.
Visual—Various objects—Contact .....	10	2	3	2	3
do. do. Non-contact .....	28	4	8	10	6
Visual—Cards, &c.—Contact .....	5	1	1	1	2
do. Non-contact .....	20	5	3	8	4
Imagined visual .....	3	1	1	0	1
Imagined numbers and names .....	3	2	0	1	0
Contact and Non-contact .....	4	1	1	1	1
Pains—Contact .....	22	3	8	4	7
do. Non-contact .....	14	2	8	0	4
Tastes and smells—Contact .....	18	1	4	2	11
Tunes—Contact .....	6	2	3	0	1
	133	24	40	29	40
Diagrams—Contact ... } Only a few, classed					
do. Non-contact } in above as objects.					

Total ... ..	133	Completely or partially correct	69
Nothing perceived ...	24	Misdescribed ... ..	40
	109		109



Showing a further declension of success from the second series or 37% of failures.

I append the record of a few of our evenings. I may remark that since November, 1883, owing to a suggestion of Dr. Guthrie's, the objects in all our visual experiments have been placed on a screen fixed to the back of the chair upon which the percipient is seated, blindfolded—the agents taking their places in front of the screen at a distance generally of three or four feet. In previous experiments of this kind the percipient, blindfolded, had faced the agents, the object or diagram experimented with having been placed at a distance behind the percipient, and the agents looking over her shoulder. I do not consider that the change of position made any difference in the result of the experiments.

The following examples will give the most important of the results from the point where my former account broke off. In every case all the experiments made on that occasion are given.

London, 24th November, 1883. Evening.

*Present:* Miss Relph, Miss Edwards, Mr. Hughes, and Mr. Guthrie. Visitors expected, but it was hoped they would not come, the company feeling dispirited. Miss Relph proposed to try some of the experiments in colours and outlines. Miss Relph was blindfolded and isolated, all joining in as operators.

- |   |   |
|---|---|
| 1.—A round red spot on satin was exhibited on a black background, behind the subject.                                       | Not seen at all.  |
| 2.—A pink diamond.  | Reply — “Colour bluish green.”<br>Afterwards said to be a diamond.  |
| 3.—A strip of green ribbon of this shape  | Reply—“It is green . . . shape square with a quarter cut out, thus  |

Somebody proposed experiments in tastes, and Mr. G. suggested a few preliminary experiments in the transference of pains. This being received with zest by the company, Miss Relph became the subject, and Mr. Hughes, taking her hand, received the following pains :—

Positions.

Percipient + 

Table
-------

Mr. H. agent.

+

Mr. G.

operator.

+ Miss E. or Miss R.  
as spectator.

- |  |                                       |
|--|---------------------------------------|
| 1.—Little finger, right hand, pinched. | Subject pointed out the spot exactly. |
| 2.—Lobe of left ear pinched.           | Ditto.                                |
| 3.—Right upper arm pinched.            | Ditto.                                |

Miss E., who had not tried this experiment before, here expressed a wish to become the subject.

- 4.—Left hand pricked with a pin. Said she felt by the shaking that they were doing something to the left arm, so this experiment was abandoned.
- 5.—Right ankle severely pinched. Subject: "Oh!" putting her hand to the spot.
- 6.—Back of neck pinched. Spot indicated by subject.
- 7.—Left nostril tickled with the corner of a piece of paper. Mr. H. suffered very much. "Something funny," putting her hand to the part, and then suddenly started as if the sensation had become unbearable.

Mr. G. here asked Mr. H. to come away for consultation. Miss Relph attended to the fire, and Mr. H. obeyed Mr. G.'s silent directions to take off one of his shoes. Poker put in fire by Mr. G. on returning.

- 8.—Inside middle of left foot pinched. Subject indicated the spot.
- 9.—Front of neck pinched. Ditto.
- 10.—Hair of head pulled. Nothing felt.
- 11.—Violent pressure of Mr. G.'s hands round Mr. H.'s right wrist. "Something tight, like a band round the wrist."
- 12.—Pressure of nail between knuckles of the same hand. Still felt pain in the right wrist.
- 13.—Red hot poker held by Mr. G. while Mr. H. put his hand over it, and drew it away when the heat became unbearable. "Something about the right hand as if I wanted to take hold of something and then drew it away, as if I was frightened to take hold of it."
- N.B.—In answer to question afterwards subject said she did not feel the sensation of heat.
- 14.—Top of left instep pricked with two pins quickly. Left foot indicated—then suddenly, "Oh! my! did you ever feel pins and needles."
- 15.—Top of right arm pinched. Spot indicated by subject.

Here Mr. G. tried, as subject, to receive a pain. He felt a slight sensation in the middle joint of the right little finger, and thought of naming the spot, but thought it would only be a guess and refrained. It afterwards appeared that the pain was located there. He tried another and failed to receive any impression.

Tastes were next tried.

- 1.—Miss Relph, with Mr. H. as agent. Citric acid. "Acid . . . makes the mouth feel rough and the teeth inside . . . might be——" Nothing else said.

- 2.—Miss Relph with Mr. G. Cloves. “A sharp taste but very pleasant.”  
(After a while.) “Now it is becoming bitter.” N.B.—The taste of cloves changes in the mouth.
- 3.—Miss Relph with Mr. H. Coffee. Miss Relph said: “Tastes rather like coffee.”  
The sample had no smell, being very old and the aroma all gone.

At this point all the objects for taste were removed from the room—they had been placed behind a screen.

- 4.—Miss Relph and Mr. H. Vinegar. “Sour and nasty . . . it isn't vinegar, is it?” (Mr. H. remained silent some time as if implying a negative.) “Is it some kind of sauce with vinegar in it?” (Another long pause.) “No; I can only taste vinegar.”
- 5.—Miss E. and Mr. G. Olive oil. Nothing perceived.
- 6.—Mr. G. then took Miss Relph's hand. “Is it oil like in sardines?”
- 7.—Miss E. and Mr. H. Mustard. Described as something hot.

Here some experiments in willing the action and position of the arms were tried without success.

Then the experiments in pains were resumed. Miss Relph and Mr. H.

- 16.—Back of neck pinched with scissors. “Dull pricks back of neck.”
- 17.—Tumbler half full of cold water grasped in Mr. H.'s right hand. “Is it something in the right hand?” (going through the action of grasping something upright) . . . “a sort of cold feeling.”
- 18.—Water dropped in drops upon Mr. H.'s right hand. Miss Relph said: “What are you doing with water?—I feel some splashes on the left arm.” (There were some splashes and the experiment was abandoned.)
- 19.—Nostrils tickled. Could not say, but kept putting her hand to her nose as if feeling very uncomfortable.
- 20.—Pricking with two pins between thumb and forefinger of right hand. “I feel a pricking here”—indicating the spot with precision.



December 5th, 1883.

*Present* : Mr. Guthrie, Miss Relph, Miss Edwards, and Miss Redmond.  
An informal meeting.

Mr. G. in contact with Miss E.

Figure 15 thought of. Failure.

Mr. G. thought of a name, "Mary Queen of Scots," and tried contact with Miss E. Failed. Then with Miss R. and failed. Then all thought of it, Miss R. being the subject. She said, "Ann—James—William," and then gave it up.

- 1.—Miss Redmond and Mr. G. tasted powder of dried celery.  
In contact with Miss Relph and Miss E. Miss E. said "Celery."
- 2.—Miss Redmond tasted and smelled camphor.  
These two experiments were imperfect.  
Miss Relph and Miss E. were then left in one room, and a trap-door in the wooden partition was opened into the next room, the space being filled up with a frame covered with india rubber, and fitting tightly. A slit in it admitted the passage of the operator's hand, which was in contact with both the subjects. There was no other means of communication ; and no scent perceptible to normal organs could pass from one room to the other.
- 3.—Miss Redmond tasted powdered nutmeg.  
Miss E. said "Ginger." Miss Relph : "Nutmeg."
- 4.—Mr. G. tasted powder of dry celery.  
Miss E. : "A bitter herb."  
Miss Relph : "Something like camomile."
- 5.—Miss Redmond tasted coffee.  
At the same time, without any previous intimation, Mr. G., with two pins, pricked the front of the right wrist of Miss Redmond.  
Miss E. said : "Is it a taste at all?" Mr. G. : "Why do you ask?"  
Miss E. : "Because I feel a sort of pricking in the left wrist." Told it was the right wrist, but she said she felt it in the left. Miss Relph : "Is it cocoa or chocolate?" Answer given in the negative.  
Miss E. : "Is it coffee?"
- 6.—Mr. G. tasted Worcester sauce.  
Miss Relph : "Something sweet . . . also acid . . . a curious taste."  
Miss E. : "Is it vinegar?"
- 7.—Miss Redmond smelled eau de Cologne.  
Miss Relph : "Is it eau de Cologne?"
- 8.—Miss Redmond smelled camphor.  
Miss E. : "Don't taste anything."  
Miss Relph : Nothing perceived.
- 9.—Mr. G. smelled carbolic acid.  
Miss Relph : "What you use for tooth-ache . . . creosoto."  
Miss E. afterwards said she thought of pitch.

10.—Mr. G. Right instep pricked with pins.

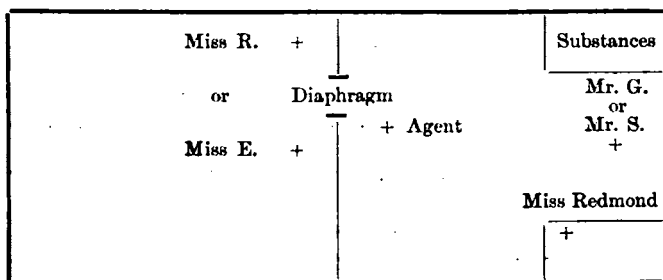
Miss E. said on face, then on left shoulder ; then Miss Relph said pain was on right foot.

Pain immediately changed to left foot. Miss E. said pain was on left foot. Both maintained their opinions.

December 11th, 1883.

Present : Messrs. Guthrie and Steel, and afterwards Miss Redmond in one room, and Miss Relph and Miss Edwards in the adjoining room, the agent's hand being passed through the slit as before. For the most part Mr. G. only (besides the agent) knew the substance employed.

This is a plan of the two rooms :—



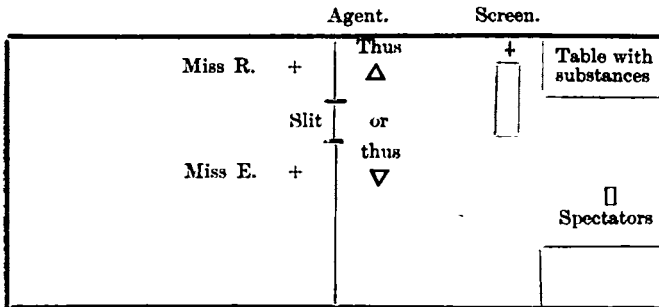
Sometimes the subjects were told the nature of the experiment—sometimes not.

- 1.—6. 2. Miss Relph with Mr. G. Taste—Spanish liquorice.
6. 6. "Something juicy and sweet . . . Anything like Spanish liquorice?"
- 2.—6. 8. Miss Relph with Mr. S. Cheese.
- 6.10. "Something sweet . . . No flavour."
- 3.—6.11. Miss Relph with Mr. G. Cheese.
- 6.12. "Still taste liquorice."
- 4.—6.12. Miss E. with Mr. G. Cheese.
- 6.13. "Pepper or spice."
- 5.—6.15. Miss Relph with Mr. G. Smell—creosote.
- 6.18. "Creosote or tar."
- 6.—6.19. Miss E. with Mr. G. Taste—peppermint lozenges.
- 6.20. "Sweet . . . chocolate?"
- 7.—6.21. Miss Relph with Mr. G. Taste—peppermint lozenges.
- 6.24. "Acid drop . . . sweet . . . Cannot distinguish any flavour . . . Acid drop or raspberry drop."
- 8.—6.30. Miss E. with Mr. S. Horehound and aniseed lozenge.
- 6.33. "Sweet and rather sickly." Mr. S. said it was a correct description.
- 9.—6.35. Miss E. with Mr. G. Smell—lavender water.
- "A scent—lavender water or rondeletia."
- 10.—6.37. Miss Relph with Mr. G. Taste—camomile.
- 6.40. "Something fearfully bitter."

- 11.—6.41. Miss E. with Miss Redmond. Taste—musk lozenges.  
6.44. "Is it sweet? . . . musk, I think."
- 12.—6.47. Miss E. with Miss Redmond. Taste—cheese.  
6.48. "Don't taste anything." (No successes with cheese.)
- 13.—6.49. "Miss E. with Miss Redmond. Smell—salts.  
6.52. "Are you smelling anything? . . . A raisin."
- 14.—6.53. Miss Relph with Miss Redmond. Smell—salts.  
6.54. "Is it smelling salts?"
- 15.—Miss E. with Mr. G. Taste—anchovy sauce.  
"Are you tasting something?"
- 16.—Miss Relph with Mr. G. Taste—anchovy sauce.  
"Is it something pleasant . . . anything like vinegar? . . .  
Don't know what it is."
- 17.—7.4. Miss Relph and Miss Redmond. Taste—nutmeg.  
"Something hot and spicy . . . seems to be something like spice  
. . . Is it nutmeg?"
- 18.—Miss E. with Miss Redmond. Taste—quinine,  
"Are you tasting anything? . . . Something nasty . . . bitter."
- 19.—Miss Relph with Miss Redmond. Taste—quinine.  
"Is it anything like . . . Oh, it's bitter! but I don't know what  
it is."
- 20.—Miss Redmond with Mr. G. Smell—camphorated spirit.  
"A smell . . . Is it lavender water? . . . Another smell, but  
I cannot make it out."
- 21.—Miss Relph, with Mr. G. Taste—coltsfoot.  
"I don't get anything at all."
- 22.—Miss E. with Mr. G. Taste—coltsfoot.  
"I don't get anything."
- 23.—Miss Relph with Mr. G. Taste—coffee.  
Nothing perceived.
- 24.—Miss E. with Mr. G. Taste—coffee.  
"Is it chocolate? . . . No; I don't get it."
- 25.—Miss E. with Miss Redmond. Smell—onion.  
"Smelling a lemon, or something like an orange or a lemon . . .  
Something hot . . . something that makes the nose feel funny,  
as if one would like to rub it . . . It makes the tears come in  
my eyes, as if I was smelling onions . . . If it is not an onion, I  
don't know what it is."
- 26.—No notice was taken of the foregoing; and, as if in despair, Mr. G.  
requested Miss Relph to try.  
Miss Relph said: "An onion . . . oh! quite strong."
- 27.—Miss E. with Miss Redmond. Taste—vinegar.  
"Seems as if you had some liquid, but don't know if it has any taste."
- 28.—Miss Relph with Miss Redmond. Taste—vinegar.  
Nothing perceived.
- 29.—Miss Relph with Mr. G. Smell—French polish.  
"Smells like vinegar or some kind of sauce." The bottle of stuff was  
afterwards smelled by Miss Relph, but she could not tell then what  
it was.

17th December, 1883.

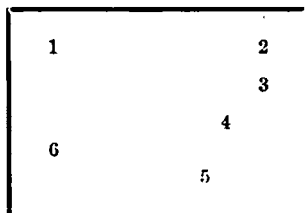
Present : Professor Balfour Stewart, Mr. Guthrie, Miss Redmond, and afterwards Mrs. Guthrie, in one room ; and Miss Relph and Miss Edwards in the other room. Thus :—



The subjects were told that the experiments would be in tastes, smells, and pains, but they would be varied without specifying the nature of each one. The substances used were not known to the spectators till after each experiment. These experiments were made with contact through the slit, as above described ; and perfect silence was observed during their progress. All the observations made by the percipients are recorded, and the answers made to inquiries of percipients were not made till the conclusion of the experiment.

- 1.—6.24. Miss E. with Mr. G. Taste—musk lozenge.  
6.25. "Is it musk?"
- 2.—6.25. Miss E. with Professor S. Taste—substance not recorded.  
6.26. "Anything bitter? . . . Cannot get anything."
- 3.—6.27. Miss E. with Mr. G. Taste—salt.  
6.28. "Anything spicy?" (N.B.—The taste was a mixture of musk and salt.)
- 4.—6.29. Miss Relph with Mr. G. Taste—salt.  
6.30. "Beef-tea, or Liebig's Extract of Beef." (N.B.—Taste was a mixture of musk and salt.)
- 5.—6.31. Miss E. with Miss Redmond. Taste—salt.  
6.34. "Like salt."
- 6.—6.40. Miss E. and Miss Relph with Mr. G. Smell—smelling salts.  
Nothing discerned.
- 7.—6.43. Miss E. and Miss Relph separately with Mr. G. Taste—tincture of quinine much diluted.  
Miss Relph: "Something acid." Miss E.: Nothing discerned.
- 8.—6.45. Miss Relph with Miss Redmond. Smell—lavender water.  
6.47. "Is it a scent? . . . lavender water."
- 9.—6.48. Miss E. with Miss Redmond. Taste—peppermint lozenge.  
6.52. Nothing discerned.
- 10.—6.52. Miss Relph with Miss Redmond. Taste—peppermint lozenge.  
6.59. "Something hot . . . cayenne? . . . It's hot . . . something very hot."

- 11.—7. 0. Miss E. with Miss Redmond. Smell—smelling salts.  
7. 4. “Smelling something . . . don't know what . . . Is it aromatic vinegar?”
- 12.—7. 5. Miss E. with Miss Redmond. Pain—front of left wrist pricked with pins.  
7. 9. “Is it a pain? . . . A funny sensation in the left wrist.”
- 13.—7.10. Miss E. with Miss Redmond. Pain—left ear pinched.  
7.10. “Pain in left ear.”
- 14.—7.11. Miss E. with Miss Redmond. Pain—nose tickled with piece of paper.  
Nothing discerned.
- 15.—7.19. Miss Relph with Miss Redmond. Pain—nose tickled with piece of paper.  
Nothing discerned.
- 16.—7.20. Miss E. with Professor S. Smell—substance not recorded.  
“A smell, but I cannot tell what.”
- 17\*—7.25. Miss E. with Mrs. G., sen. Smell and taste—creosote.  
7.27. “Is it that horrible stuff—tar?”
- 18.—7.29. Miss Relph with Mr. G. Taste—Spanish liquorice.  
7.34. “Something sweet and hot.”
- 19.—7.35. Miss Relph with Mr. G. Pain—sole of right foot pricked with pins.  
Failure. Professor S., who was with the subjects, reports that Miss E., not in contact, located the pain in the right foot.
- 20.—7.50. Miss Relph with Mrs. G., sen. Smell—onion.  
7.51. “Are you smelling some kind of fruit?”  
7.52. “Is it an onion?”
- 21.—7.53. Miss Relph with Mrs. G., sen. Taste—Spanish liquorice.  
7.54. “Tasting something . . . liquorice.”
- 22.—7.55. Miss Relph with Mrs. G., sen. Pain—nose tickled.  
Pain in right hand—afterwards foot.
- 23.—8. 0. Miss Relph and Miss E. with Mr. G. Pain—chin pinched.  
Nothing discerned.
- 24.—8. 4. All the company now met in one room, Miss Relph being placed with her face in the corner and blindfolded. Thus:—



1. Miss Relph.
2. Professor S.
3. Mrs. G.
4. Miss Redmond.
5. Miss E.
6. Mr. G.

Mr. G. produced a bunch of small keys, hanging on a chain, from his pocket, and held them up behind Miss Relph. The experiment took about five minutes.

Miss Relph said: “Is it something bright? like a lot of icicles hanging down.”

- 25.—Professor S. wrote down "Tom Thumb," and passed it round, telling Miss Relph we were going to think of a fancy name.  
Miss Relph received no impression.


The spring of 1884 was taken up by experiments under the supervision of Dr. Lodge, already reported in the *Proceedings*, Vol. II., pp. 189-200.

November 6th, 1884.

*Present*: Miss Relph, Miss Redmond, Mr. Guthrie, and Professor Herdman.

*Percipient*: Miss Relph. Object on a screen at the back of her chair.

*No contact.*

- 1.—Object—Red paper cut in the form of an egg-cup with a white egg in it.  
Miss Relph: "It is something red; longer than wide." She could not describe the shape.
- 2.—Object—Blue paper cut in the form of a jug.  
Miss Relph: "Is it blue? wider at the top, then goes in, then wider again . . . It looks like a jug." (See drawing—handle reversed.)
- 3.—Object—Red paper cut in the form of a vase.  
Miss Relph: "Is it red? . . . I can get the colour, nothing more."
- 4.—Object—A new nutmeg-grater.  
Miss Relph: "It is something bright . . . silver or steel . . . long and narrow."
- 5.—Object—A round wooden counter on a black ground.  
Miss Relph: "I can't see anything at all."
- 6.—Object—A red counter.  
Miss Relph: "Is it red? . . . It is round and red."
- 7.—Object—No. 5 over again.  
Miss Relph: "Is there any red about it? . . . Yellowish red—a kind of light."
- 8.—Object—Silver paper cut in the form of a teapot.  
Miss Relph: "Is it bright silver, something like a kettle? . . . A teapot."
- 9.—Object—A long yellow rectangular paper. 
- Miss Relph: "Is it yellow? . . . It seems longer than wide."
- 10.—Object—A sovereign.  
Miss Relph: "Is it bright yellow? . . . gold . . . Is it round?"
- 11.—Object—The three of hearts.  
Miss Relph: "Is it a card with red spots? . . . Three, one above the other."
- 12.—Object—The five of spades.  
"Is it another card with five black spots?"
- 13.—Object—The eight of diamonds.  
"Is it a card with a lot of spots? . . . red . . . the ten?"



- 14.—Object—A card with two red X's.

Miss Relph : " Is it something yellow and bright ? " . . . I see no shape at all . . . Is it a card with red spots ? . . . I see no shape."

- 15.—No object. We thought of a white X on a black ground.

Miss Relph : " I see something white and black . . . I see two lines."

November 13th, 1884.

*Present* : Misses Relph and Redmond ; Messrs. Guthrie and Johnson ; and Professor Herdman.

*Pain Experiments.*

*Percipient* : Miss Relph, blindfolded. Contact.

- 1.—Mr. J.'s left arm pinched.

Miss Relph : " Somewhere about this " (left) " arm." She indicated the right spot.

- 2.—Mr. G. twisted a cord tightly round Mr. J.'s right wrist. (No contact.) No result.

Contact with left hand. Miss Relph : " Is it this " (right) " wrist ?"

- 3.—Mr. G. rubbed a grater on Mr. J.'s left hand. (Contact with right hand.) Miss Relph pointed to the place and said : " It is a nipping pain."

*Object Experiments.*

- 1.—Object—A bird's-claw brooch, with silver.

No result. Nothing seen.

- 2.—Object—Small letter " d."

Miss Relph : " Are there black lines on a white ground ? " (" Yes.") " I can't see any distinct shape. There seems to be a line down and another going round." (" Can you draw it ?") " Yes." Miss Relph then drew



- 3.—Object—The small letter " k."

Miss Relph : " It seems something the same as the last, a white ground and dark lines . . . I can't see anything distinctly." No result.

- 4.—Object—A gold horseshoe on black.



Miss Relph : " Is it something bright and yellow ? " (" Yes. What shape is it ?") " I can see no shape." No further result.

- 5.—Object—The capital letter Q, white and black.

Miss Relph : " Is it round, with something at the bottom ? " (" Yes.") " It might be a letter." (" Which letter ?") " Is it O or Q ?"

- 6.—Object—The letter T.

Miss Relph : " Is it another letter ? . . . Is it anything like a T ?"

- 7.—Object—A pair of scissors on a white ground.

Miss Relph : " Is it bright like silver ? . . . It seems wider than long, but I can't see any distinct shape." No further result.

- 8.—Object—Red paper cut in the form of a teacup and saucer.  
Miss Relph : "It is red." ("What shape is it?") No shape visible.
- 9.—Object—Blue paper cut in the form of a jug.  
Miss Relph : "Is it square? . . . I still see red, also blue . . .  
It is wider at the bottom and goes up narrower . . . Are there  
two objects?" ("No.")
- 1.—We agreed to think of the number 4.  
Miss Relph : "Is it 3 or 5?" ("No.")
- 2.—Number 18 thought of, and contact.  
Miss Relph : "Is it 3? . . . Is it 9?" ("No.")

*Pain Experiments. With contact.*

- 1.—Back of Mr. J.'s neck scratched with pin.  
Miss Relph : "Is it the back of the neck?"  
Right.
- 2.—Mr. J.'s left shoulder pricked.  
Miss Relph pointed to the right place.
- 3.—Mr. J.'s left wrist squeezed.  
Right.
- 4.—Mr. J.'s left ankle squeezed.  
Right.

*Without contact.* Miss Relph, blindfolded and isolated, seated with back to company—a suggestion of Dr. Herdman's.

- 1.—Back of left hand pricked.  
Guessed rightly.
- 2.—The left lobe of the ear pricked.  
Also guessed rightly.

November 20th, 1884.

*Present:* Misses Relph, Redmond, James; Messrs. Guthrie and Johnson;  
and later, Professor Herdman.

*Percipient:* Miss Relph.

- 1.—Object—A red ball on a blue ground.  
Miss Relph : "Is it orange or yellow, and round?"
- 2.—Object—The three of spades.  
Miss Relph : "Is it a card? . . . with black spots? . . . I  
think there are four or five . . . in a straight line."
- 3.—All pricked the left wrist with a pin. No contact.  
Miss Relph : "Is it in the left hand?" (Pointing to the back near  
the little finger.)
- 4.—All twisted thick wire round the third finger of the left hand.  
Discovered correctly, but one joint lower down.
- 5.—Object—A silver egg-cup.  
Miss Relph : "Is it something like silver? . . . standing up?"  
Miss Relph could not describe the shape.



- 6.—Object—A square patch of blue silk.  
Miss Relph : “ Is there a lot of blue about ? . . . Is it square ? ”
- 7.—Object—The figure 7—black on white.  
Miss Relph : “ I think I see some black lines.” Miss Relph could not define further.
- 8.—Object—A red chess queen.  
No result.
- 9.—Object—A square patch—dark red.  
No impression. It was rather far from the light.
- 10.—Object—A round red patch on a white ground.  
Miss Relph : “ Is there a lot of red ? It seems to be round.”
- 11.—Object—The two of spades.  
Not made out. Impression of a lot of colours.
- 12.—We all thought of a carrot.  
No result.
- 13.—Object—A silver spoon.  
Miss Relph : “ There seems to be something long standing up . . . silver or steel.” Miss Relph could not get any shape.
- 14.—Object—The two of hearts.  
Miss Relph : “ Is it a card with two red spots ? . . . They look like hearts.”
- 15.—Object—A card with two red X's.  
Miss Relph : “ Is it a card with two red spots ? ”
- 16.—Object—A square patch, red.  
Miss Relph : “ I see a lot of red . . . Is it square ? ”
- 17.—Object—The ace of clubs.  
Miss Relph : “ Is it a card ? . . . The ace of clubs.”

November 27th, 1884.

*Present* : Miss Relph and Miss Redmond ; Messrs. Guthrie, Rensburg, and R. C. Johnson.

*Percipient* : Miss Relph.

- 1.—Mr. G. pinched Mr. J.'s arm. Contact.  
Immediately discovered.
- 2.—Mr. G. pinched Mr. J.'s right hand.  
Immediately discovered.
- 3.—No contact as above. All pricked the right hand.  
Miss Relph (after a minute) : “ I feel a tingling at the back of my right hand.”
- 4.—Object—The ten of clubs.  
Miss Relph : “ It seems to be a card with black spots . . . four or five . . . It is not distinct.”
- 5.—Object—A white jug.  
No result.
- 6.—Object—A square of blue silk. No contact.  
No result. Contact with Mr. J. Miss Relph : “ Something blue.”  
Miss R. could not see any shape.

Percipient : Mr. Rensburg, in contact with Mr. G.

- 7.—Mr. G.'s left arm pinched.  
Rightly discovered.
- 8.—Object—Square red patch.  
Nothing seen in two minutes.

Percipient : Miss Relph. Contact with Miss Redmond.


- 9.—Object—Shape of a diamond, pink.  
Miss Relph : "Are there black lines?" No result.
- 10.—Mr. G. pinched Miss Redmond's second finger of the right hand.  
The exact spot was discovered in a few seconds.

Miss Relph in contact with Mr. R.

- 11.—Mr. G. pinched Mr. R.'s right ear.  
Miss Relph felt pain in the left ear.
- 12.—The left ankle pinched.  
Discovered immediately.
- 13.—The back of neck pinched.  
Discovered immediately.
- 14.—Pressure of the left wrist.  
A numb pain immediately felt, like being asleep.
- 15.—Object—A pink diamond on a black ground.  
Miss Relph (in a minute) : "Is it pink? . . . It seems wider than long."
- 16.—Object—A blue square on a black ground.  
Miss Relph : "Is it blue?"
- 17.—Object—A silver basket on a black ground.  
Miss Relph : "Is it silver? . . . Is it like scissors?"

Percipient : Miss Relph. No contact.

















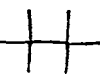



- 18.—Object—A bunch of keys.  
No result.
- 19.—Object—Bright steel gas pliers.  
Miss Relph : "Is it yellow, or golden?" Shape not made out.
- 20.—Object—A red bell.  
Miss Relph : "Is it red? . . . Is it longer than wide?" Shape not made out.
- 21.—Object—A gold chain belonging to Mr. Rensburg.  
Miss Relph : "Is it bright—gold? . . . Like a chain? . . . Mr. R.'s watch-chain."
- 22.—Object—A latch key on black ground.  
Miss Relph : "Is it something standing up? . . . Is it long—curved?"
- 23.—Object—A gold watch.  
Miss Relph : "Is it bright? . . . gold . . . round . . . a little ring at the top . . . a watch."

- 24.—Object—Diagram :   
Not discovered.

December 4th, 1884.

*Present*: Misses Relph and Redmond; Messrs. Guthrie and Johnson, and Professor Herdman.

*Percipient*: Miss Relph. No contact. Professor Herdman left the room, made a drawing, returned, and placed it on the screen.

- 1.—  No result.
- 2.—  For this a square was drawn, one side being partially broken in. (Query?—Mirage of first in mind?)
- 3.—  Result—  Top part first and then the 
- 4.—  Mr. J. only agent.  Drawn.
- 5.—  Mr. J. only agent. Result—  and   
and on a second trial the figure was drawn correctly.
- 6.—  Mr. J. only agent. No result.
- 7.—  Professor H. only agent. Result— 
- 8.—  Professor H. only agent. Result— 
- 9.—  All agents. Result— 
- 10.—  All agents. Result— 
- 11.—  All agents. No image at all.

NOTE.—This set of diagrams is of course a very unsuccessful one. It is introduced in order not to break the rule of giving the *complete* results of each evening's trials.

## EXPERIMENTS IN PAIN TRANSFERENCE.

*Actual Pains.* No contact as described before.

12.—All scraped the left wrist with pins.

Miss Relph : "It is in the left wrist, like being scratched."

13.—Left ankle pricked.

Found at once.

14.—Pricked behind left ear.

Not found.

15.—Pricked right knee.

Rightly discovered.

16.—Pricked right shoulder.

Rightly discovered.

17.—Hands burned over gas.

Miss Relph : "It is like a pulling pain . . . Then tingling, like cold and hot alternately." (Hands indicated.)

*Imaginary Pains.* No contact.

18.—Biting the end of the tongue.

No result.

*Actual Pain.*

19.—Biting the end of the tongue.

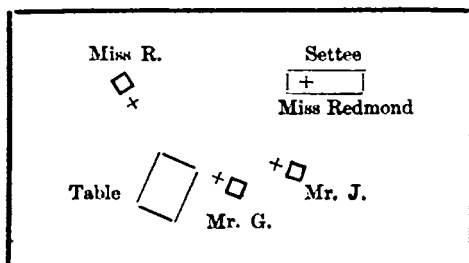
Miss Relph : "It is in the lip or the tongue."

December 18th, 1884.

*Present :* Misses Relph and Redmond ; Messrs. R. C. Johnson and M. Guthrie.

Professor Herdman was expected, and while waiting for him it was determined to try some new experiments. Mr. J. proposed the transference of pains through obstructions, and Miss Relph went into the next room, separated by a wooden partition. Two experiments were tried, but in neither instance was anything felt ; one guess was made, but it was wrong.

On Miss Relph's return, Mr. G. proposed thinking of a word, and wrote "Victoria" on a card, which was silently passed round. This was the position :—



Nothing was perceived.

Mr. G. then proposed pictures, and it was understood that pictures from the Autumn Exhibition would be thought of. Mr. G. wrote on a card, and passed round silently, "Too Late," the name of a well-known picture, and

one easily to be remembered. In five minutes Miss Relph said, "Is it 'Too Late'?" ("Yes.") "Oh, it came to me so quickly—in two or three seconds after I started." ("Did you see it, or did the idea come to you?") "I saw it." ("Why did you not name it before?") "I wanted to make sure, and it would not go away."

Mr. G. then wrote as before, "The Last Supper, by Leonardo da Vinci." In about five minutes Miss Relph said: "Is it the last days of somebody? Somehow there seems to be a dying man and a lot of people in the room. A bed with a dying man, and someone holding a paper or something to him, or else he is holding it. I don't remember the picture." Miss R. was then told it was not in the Autumn Exhibition, as she seemed to think, but that she knew the picture. She said: "It can't be the Death of Nelson." Mr. G. explained that he imagined a long table covered with a pure white table-cloth, in a room, with people behind it. Miss R. said: "I saw a lot of heads straight up and down, like as if kneeling on the other side of the bed." ("What picture do you think it was?") "The Last Supper." Mr. G. inquired as to the details of the picture, as he had imagined Christ to be holding a large goblet in His hand, and Judas leaning over between Him and John, dipping something into it. This in explanation of part of Miss R.'s description.

The picture of "Dante meeting Beatrice and her Two Companions," in the Autumn Exhibition, was then tried, but nothing was perceived.

The above is recorded by Mr. G. The following is by Mr. J. :—

Mr. G. then left the room, and the name of a picture, "The Flight into Egypt" (by Goodall), was written by Mr. J. and passed to Miss Redmond. In about four minutes Miss Relph said: "Is it the Flight into Egypt? I see it quite distinctly."

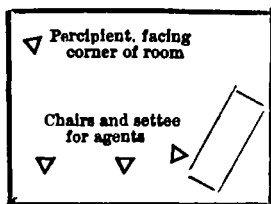
In the same way Miss Redmond and Mr. J. agreed to think of the portrait of "Miss Mary Anderson" in same exhibition, but after a similar interval had elapsed with no result the experiment was discontinued.

Miss Redmond then left the room, and Mr. J. thought of "Ellen Terry as Portia," which was named correctly in about two minutes.

Mr. J. then thought of the "Spirit of Music." In two or three minutes Miss Relph said: "Gelert comes into my mind." On being informed that this was incorrect, she said she could not see anything else.

"The Druidess," a water colour, was then thought of by Mr. J. This also was not seen.

UNIVERSAL POSITION FOR  
NON-CONTACT EXPERIMENTS.



Perfect silence. No one allowed to speak; Mr. G. merely saying: "This is an object experiment." "This is a pain experiment." "Now we are ready, Miss Relph."


Folding Screen,  
measuring,  
when opened  
out, 8in. high by  
12in. long.



Chair for percipient.

March 25th, 1885.

Present: Dr. Hicks, Messrs. Guthrie, Birchall, and R. C. Johnson; and Misses Redmond and Relph.

- 1.—Miss Relph, in contact with Dr. Hicks.  
Doctor's left arm (biceps) pinched by Mr. G.  
Pain said to be in left shoulder.
- 2.—Miss Relph. No contact.  
All pricked palm of left hand with pins.  
Answer—"Is it a tingling pain in the hand, here?" (placing her finger on the palm of the left hand).
- 3.—The same. No contact.  
All pricked back of their necks with pins.  
Answer—"Is it a pricking in the neck?" (touching the back of the neck near centre, a little to the right).
- 4.—The same. No contact.  
Object—Mr. G. held the back of his gold watch against his coat.  
Answer—"Are you looking at something yellow? . . . Is it round; something like an orange? . . . But it is not an orange."
- 5.—The same. No contact.  
Mr. G. held as before a pair of bright steel pincers (closed).  
Answer—"Is it something bright? . . . saw a flash of bright light, but no shape."
- 6.—The same. No contact.  
Object—A piece of bluish-green silk, this shape.   
Answer—"Is it blue? A greenish blue? Shape not well defined."
- 7.—The same. No contact.  
Object—A diagram, drawn by Dr. H. in another room, and then brought in. Shape was a square.  
Answer—No result.
- 8.—Same repeated; but Miss Redmond and Mr. G. left the room, and Dr. H. as chief agent. No contact.  
Answer—"Are there three lines in it? . . . anything like a triangle? . . . am doubtful as to any shape . . . cannot fix the lines."
- 9.—The same. No contact.  
Object—Letter S.  
Answer—"Is it anything like a bell—narrow at top, and growing wider at bottom?"
- 10.—All present. No contact.  
Object—Letter P. Miss Relph was placed with her face to the light, and the object was kept in shade, to test any effect of light.  
Answer—No result at all.
- 11.—The same. No contact; and Miss Relph in same position.  
All looked intently at the illuminated gas globe.  
Answer—"Is there any colour about what you're looking at? . . . is there any green? . . . Don't see anything, except a white light without shape."

12.—The same. No contact.

Object as above ; but the other gas being put out, Miss Relph now faced only the shaded wall.

Answer—"Is there any red or pink about it?"

13.—The same.

Object—Word "Richard" to be thought of. Miss Relph told we were going to think of a name.

Answer (after a long interval)—"Is it something beginning with an S?"

April 15th, 1885.

*Present*: Dr. Hicks, Messrs. Guthrie and Birchall ; Misses Redmond and Relph.

Miss Relph in adjoining room, alone.

- 1.—6.45. Miss Relph. Contact through trap-door with Mr. B., who tasted sugar.
  - 6.50. Answer—Coffee.
- 2.—6.51. Same. Contact with Dr. Hicks.
  - Tasted peppermint.
  - 6.53. "Something that makes the tongue feel dry and rough."
  - 6.54. "Has a sweet taste."
- 3.—6.56. Same. Contact with Dr. H.
  - Doctor's lobe of right ear pinched with American wood letter clip by Mr. G.
  - 6.58. "Is it something on the right side of the neck?" (pointed to the lobe of the right ear).
- 4.—7. 0. Same. Contact with Dr. H.
  - Mr. G. pricked the Doctor's right ankle, on the outside.
  7. 3. "Is it in your arm?" (Dr. H. : "No.")
  7. 5. "I don't feel anything."
- 5.—Miss Relph, in contact with Miss Redmond.
 

(NOTE.—Percipient unaware of the nature of this experiment.)

  7. 6. Agent tasted musk lozenges.
  - 7.10. "Can't feel any pain . . . It is something sweet . . . Are you tasting something? . . . I can taste something quite sweet."
  - 7.12. "Can't tell what it is."
- 6.—The same. Contact as above. Again ignorant of nature of experiment.
  - 7.15. Miss Redmond smelled lavender water on a scented handkerchief.
  - 7.15. "Are you smelling something?"
  - 7.19. "Some kind of scent . . . I don't know . . . Is it lavender water?"
- 7.—7.21. The same. Contact with Mr. G., who tasted salt.
  - 7.25. "Are you tasting sweet biscuits?"
  - 7.28. "Are you tasting parsley or celery?"
- 8.—7.30. The same. Contact with Dr. H., who tasted alum.
  - 7.35. "Are you tasting something sweet?" (Dr. H., feelingly : "No, Miss Relph, I am not!")

- 9.—7.36. Miss Relph. Contact with Dr. H., who smelled carbolic acid.  
7.40. Are you smelling something? . . . salts." (Dr. H.: "I am smelling something, but it's not salts—ammonia.")  
7.41. "I smell something, but don't know what it is . . . It's not nice—not a scent."  
Miss Relph ignorant of the nature of the experiment.
- 10.—7. 0. Same. Contact with Mr. G.  
7.45. Mr. G.'s little finger of left hand pinched by the wooden clip.  
7.47. "No, Mr. Guthrie, I don't get anything."

April 21st, 1885.

Present: Messrs. Guthrie and Birchall, and Miss Relph.

- 1.—Miss Relph, in contact with Mr. B.  
Object—A bright steel key suspended upright against Mr. G.'s coat.  
Answer—"Saw something bright for a moment . . . like an upright line."
- 2.—Miss Relph, in contact with Mr. G.  
Mr. G. looked intently at Mr. B.  
No result.  
Miss Redmond here entered the room, and remained.
- 3.—The same, in contact with Mr. G.  
Object—The earring in Miss Relph's ear.  
Miss Relph twice put her hand to this ear, saying she felt something there.
- 4.—Miss Relph. No contact at first, and then with Miss Redmond.  
All thought of the tune "Auld Lang Syne," Mr. G. beating time behind the percipient.  
Answer—"Auld Lang Syne."
- 5.—Miss Relph, in contact with Mr. B.  
Object—Imaginative picture, the Three Graces in marble. Mr. B. said he was unable to form a definite conception of the group.  
No result.
- 6.—The same. Contact with Mr. B.  
Object—A tune, "Girl I left behind me."  
No result. Percipient could not banish "Auld Lang Syne" from her mind.  
N.B.—A second experiment with a tune, not noted, was unsuccessful, "Auld Lang Syne" still haunting Miss Relph's mind.

May 6th, 1885.

Present: Messrs. Guthrie, Birchall, and R. C. Johnson; Misses Redmond and Relph.

- 1.—Miss Relph. No contact.  
All pricked front of left arm above the elbow.  
Answer—The pain was fixed almost immediately on the spot.
- 2.—The same.  
The three gentlemen pricked just above the left ankle.  
Answer—The seat of the pain was again fixed accurately, almost on the instant.



- 3.—The same.  
*All* pricked right arm just above the wrist.  
 Answer—"I am not quite sure, but I feel a pain in the right arm, from the thumb upwards to above the wrist."
- 4.—The same.  
*All* thought of the number 84.  
 Answer—"Is there an 8 in it?" (Mr. G. : "There's more than one thing.") "Yes . . . there's something else." (All here signalled to think of the 4.) Miss Relph said she would be unable to do more.  
 On being questioned, said she *saw* the figure. It was not a conception, but a visible object.
- 5.—The same.  
*All* thought of the name "Esmeralda."  
 Answer (after a short interval)—"No; I don't think of anything at all."  
 Mr. Johnson then took contact, but no result followed.
- 6.—The same.  
 Object—A square of yellow, set against a black hat on the table. A large piece of blue paper was near it.  
 Answer—Percipient at first caught a glimpse of yellow for a second, and then saw a colour, blue or green.
- 7.—The same.  
*All* thought of the tune, "Home, Sweet Home."  
 No result.  
 Mr. B. then took contact. No result; but when asked if she had no thought of any tune, said, "Was it 'Home, Sweet Home'?"
- 8.—The same.  
 Mr. G. and Miss Redmond alone thought of the air "Ehren on the Rhine."  
 No result.  
 Miss Redmond then took contact, and percipient named the air.
- 9.—The same. Mr. B. in contact.  
*All* thought of the air, "Jenny Jones." The hands not clasped in contact, but held flat against each other.  
 Answer—"The Meeting of the Waters."
- 10.—The same. Mr. B. in contact.  
 "Bonnie Dundee" thought of.  
 No result.

June 4th, 1885.

*Present*: Mr. Guthrie, Dr. Greves; Misses Relph and Redmond.

Miss Relph percipient throughout.

- 1.—Mr. G. in contact.  
 Dr. G. pricked knuckle of left forefinger of Mr. G. with a pin; but Miss Relph failed to perceive any pain.
- 2.—No contact.   
 Object—Piece of green ribbon.  
 "Is it green? . . . Is it longer up and down than from side to side?" (moving fingers to indicate its shape.)

3.—No contact.

Object—A round piece of scarlet material.

“Is it pink? . . . Cannot tell shape, outline appears indistinct.”

4.—No contact.

Object—Six of diamonds.

“Is it white? . . . I see black spots on it.” In reply to “How many?” Miss Relph answered, “Six. Is it the six of clubs?”

5.—No contact.

Object—Letter M.

“Is it black and white? . . . I see up and down lines, seem to run together. . . . Cannot make them out distinctly.”

6.—No contact.

Object—Miniature green kite, with red tail and tassels.

After some time she said: “I don’t see anything distinctly, but at first I thought I saw something red.”

7.—Dr. G. alone present. Mr. G. and Miss Redmond in adjoining room.

No contact.

Object—A piece of cardboard, about size of ordinary playing card, with five large blue figures like “inverted commas” on it.



“Is it blue? . . . I see nothing but curves, which run into each other. . . . It is wider at the top and bottom than in the middle, where the blue colour is very distinct. . . . Cannot see any separate marks.”

8.—Dr. G. alone present. No contact.

Object—Letter P.

“Is it black and white? . . . It looks something like an umbrella upside down; or like part of an anchor with one half gone.” (N.B.—Miss Relph evidently had an inverted image of the letter, and failed to recognise it as the letter P.)

June 11th, 1885.

Present: Messrs. Guthrie, Johnson, Greves; Misses Relph and Redmond.

Miss Relph percipient throughout.

1.—No contact.

Mr. G., Mr. J., and Dr. G. pricked the inner side of left ankle.

“I feel a pain in the left ankle. It is just on the outside.” (pointing to the corresponding spot on the outer side of the ankle.)

2.—No contact.

Same three pricked a spot immediately beneath the *right* collar bone.

“I feel a pain in my *left* shoulder.” (pointing to exactly the corresponding spot on the opposite side.)

3.—No contact.

Same three pulled hair at back of head; but Miss Relph did not perceive any pain at all.

4.—Miss Redmond here came in.

No contact.

Object on screen—Nine of hearts.

Percipient did not see anything.

5.—No contact.

Object—Ten of clubs.

“I see something white with black rings on it.” In reply to how many, “They seem to be moving about. Are there three?”

6.—No contact.

Object—An equilateral triangle in black and white.

Miss Relph for some time could not see anything. Mr. G. then left the room. (He subsequently stated that he felt rather fatigued and worried, and thought the experiments might succeed better in his absence.) After a few minutes Miss Relph said, “I see up and down black lines on a white ground, but cannot tell what shape it is.”

7.—Object—A piece of crimson material.

“Is it red? . . . It is nearly square, longer one way.”

8.—Mr. G. here came in again.

Object—Figure 5.

“Is it black and white? . . . Cannot tell shape.”

9.—Mr. Johnson alone present as agent. No contact.

Object—Same figure 5.

“Can only see black lines . . . cannot tell shape.”

#### *Pains.*

10.—With contact. Mr. J. in contact.

Mr. J. applied pair of pincers to back of right ankle, immediately above heel.

“I feel a dull aching pain in the right ankle.”

11.—Mr. J. in contact.

Pincers applied by Dr. G. to skin on inside of left forearm.

“I feel a pain in the left wrist, shooting up arm.”

12.—Dr. G. in contact.

Mr. G. pinching skin on left side of neck with pincers.

Almost at once: “I feel a pain in my neck” (pointing to identical spot).

13.—Dr. G. in contact.

Mr. G. pinching skin on back of right calf.

“I feel a pain in the left knee.”

14.—Dr. G. in contact.

Mr. G. pinching skin of neck immediately below chin.

“I feel a kind of irritation all over face, beginning in chin and passing down neck. It is getting painful.”

#### *Tastes.*

15.—Dr. G. in contact, having taken a little salad oil.

“I feel a cool sensation in my mouth, something like that produced by sal prunelle.”

16.—Mr. J. in contact, having tasted Worcestershire sauce. (Mr. J. left room, to avoid uncorking bottle in room.)

“I taste something oily; it is very like salad oil.” (N.B.—Nothing had been said at all about the substances tasted either by Dr. G. or Mr. J.) A few minutes after contact with Mr. J. had ceased, Miss Relph said, “My mouth seems getting hot after the oil.”

17.—Dr. G. in contact, having tasted bitter aloes.

“I taste something frightfully hot . . . something like vinegar and pepper . . . It is Worcestershire sauce.”

18.—Mr. Guthrie in contact, also having tasted bitter aloes.

“I taste something extremely bitter, but don't know what it is, and do not remember tasting it before . . . It is a very horrid taste.”

July 1st, 1885.

Present: Dr. Greves, Messrs. Guthrie, Birchall, and Johnson; and Misses Relph, Redmond, and McLeod.

1.—6.50. Miss Relph. No contact.

All pricked inside of right wrist.

6.51. “Is it a pain in the right foot?”

6.52. “I feel a pain in the right foot.”

2.—6.53. Miss Relph. Mr. G. in contact.

Mr. G.'s little finger left hand pinched by Dr. G.

6.53½. “Is it here?” (touching side of palm on left hand).

Miss Redmond and Miss M. here entered the room.

3.—Miss Relph. No contact.

6.55. Object—Mr. G.'s gold watch, face in front.

6.57. “Are you looking at something red?” (Mr. G.: “No.”)

6.59. “No; I don't know what it is.”

4.—Miss Relph. No contact.

7.0. Object—An orange.

7.1. “Is there anything yellow?”

7.2. “Just a round yellow thing.” (Asked if she could tell the shade of yellow, said: “It's rather a deep shade.”)

5.—Miss Relph. No contact.

7.4. Object—A penknife, white haft, two blades open.



7.6. “Seems to be something bright . . . some kind of metal.”

7.7. “Don't know what it is . . . seems to be something bright . . . standing up like . . . but can't see the shape.”

6.—Miss Relph. No contact.

7.10. Object—Mr. G.'s watch again, face in front.

7.14. “Can still see something bright . . . like up and down.”

7.15. “Don't know what it is . . . Seemed to see something red once . . . then it seemed something like gold.”

7.16. “Is there anything round? Seems to be something round . . . gold.”



7.17. “Is it anything like a locket or a watch? Doesn't look as large as a watch.”

N.B.—All the agents not at equal distances from the object.

7.—Miss Relph. No contact.

7.20. Object—a diagram: a square, side 1in. All agents at same distance.

7.21. “Is it yellow?”

- 7.25. "No, I don't see anything . . . Thought I saw something yellow."  
Miss Redmond here took contact, and was the only agent.
- 7.27. "No, I don't get it."
- 8.—Miss M. Contact with Mr. G.
- 7.30. Mr. G.'s left little finger pinched with pincers by Mr. J.
- 7.31. "Pain here" (touching right arm under elbow). This arm was in contact.
- 7.33. "Feel it in this" (the left) "arm."
- 9.—Miss M. Miss Redmond in contact.
- 7.34. Same pain as above, given by Mr. G.
- 7.35. "In thumb, left hand."
- 10.—Miss M. Contact with Miss Redmond.
- 7.36. Agent pinched just above left wrist by Dr. G.  
"Seems to be a pain about my left elbow."
- 7.37. "In this" (the left) "arm."
- 11.—Miss M. No contact.
- 7.39. Object—An orange.
- 7.43. No reply being made, Mr. G. asked if she got anything at all.  
Answer—"No; once I saw something white and straight."  
Mr. G., Miss R., and Miss M. here left the room.
- 12.—Miss Relph. No contact.
- 7.45. Object—A diagram; a triangle. 
- Agents (Dr. G., Mr. B., and Mr. J.) within 2ft. of object.
- 7.47. "Is it black, on a white ground? Can see a line straight across."
- 7.48. "And then there seem to be two lines coming down." (Percipient shaped with her hands in the air, as if tracing a V.) . . .  
"And then they get lost . . . something like an unfinished V."
- 7.49. "It's like—hazy . . . Can see the top very clearly . . . but not . . ."
- 7.50. While still blindfolded, drew a figure thus 
- 13.—Miss Relph. No contact.
- 7.51. Object—A diagram; square, 2½in. side. Agents within 2ft. of diagram.
- 7.54. "I still see the same black lines . . . like half an oval."
- 7.55. "It's gone altogether now."

## IV.

LOCAL ANÆSTHESIA INDUCED IN THE NORMAL STATE  
BY MESMERIC PASSES.

The experiments which form the subject of this paper were a repetition of those described in the *Proceedings*, Vol. I., pp. 257-260, and Vol. II., pp. 201-205, and were made with the same operator, Mr. G. A. Smith, and the same subject, Mr. F. Wells. They were made in the presence and under the superintendence of Professor and Mrs. H. Sidgwick, Mr. E. Gurney, and Dr. A. T. Myers, on March 20th and 21st, and July 3rd, 1885, in a room at a hotel at Brighton, engaged for the occasion. On March 20th, Mr. Bull, F.R.C.S., and Mr. White Cooper were also present.

Mr. Wells has been frequently mesmerised by Mr. Smith, and falls very easily into the sleep-waking state under his influence. But in the present experiments he is not put into any sleep, but remains in an apparently completely normal condition. He lays his hands on the table with the fingers extended and separated. Mr. Smith holds his hand pointed downwards, and with the four fingers in a line along one of Mr. Wells' fingers, at a distance varying from say, two inches downwards. With his hand in this position, he makes passes for some minutes along the finger; after which, if the experiment is successful, the finger over which the passes are made, and that only, is found to have lost all sensitiveness and to have become rigid. The effect goes off after a time in any case, but recovery seems to be materially hastened by reverse passes.

The measures taken to test the effect will be given in detail presently. With regard to the cause, the present experiments did not take us very far; indeed, they are so little more than a mere repetition of part of what was done before, that the only excuse for publishing them is that in the case of a phenomenon so little observed or recognised the mere verification of the fact that it occurs is worth something, and so also is the testimony of fresh witnesses, which Mr. and Mrs. Sidgwick were. It was hoped that Mr. Bull and Mr. White Cooper might have been so too; but the experiments, on the only day on which they were able to be present, cannot be regarded as successful.

Of the possible explanations of the phenomenon we only endeavoured to eliminate two, namely, an influence on the nerves due (1) to expecta-

tion on Mr. Wells' part, or (2) to mere monotonous stimulation due to the passes and independent of the person making them. There remain the several possibilities of a mesmeric effluence, such as Esdaile believed water to be affected by when he mesmerised it; of some sort of what we may perhaps call nervous induction; and of suggestion conveyed through unconscious telepathy. Mr. Wells is, according to his own account, quite unconscious of any effect whatever, mental or physical; so that, for instance, if he closes his hand he is unaware that the affected finger remains extended, unless he can see it. From previous experiments (see *Proceedings*, Vol. II., pp. 203, 204) there is some reason to think that the effect is only produced if Mr. Smith knows which finger he is making passes over, which suggests that a conscious direction of his thoughts or will is necessary. It is, however, very difficult to be sure that, in making this experiment, the absence of definite direction of attention was the only change, having a bearing on the experiment, which the new conditions introduced. For instance, a want of confidence on the part of the operator may have been the real cause of failure. That mental disturbance has an important effect is at any rate suggested by part of our experience in the present series of trials. The reader will see, on turning to the table of experiments (pp. 457-9) that the success on the first day was very poor. The first experiment succeeded well enough, but the second was broken off abruptly because we thought that Mr. Smith had accidentally touched Mr. Wells' finger, which would have nullified the precautions taken to prevent his knowing which finger was being operated on. It was very important, of course, to take note of this fact; but we made a mistake in breaking off the experiment, since this was very likely to produce a disturbing effect on the minds of both operator and subject. And it seems not improbable that the failure of the subsequent experiments on that day may have been due to this cause. Further experiments to throw light on the cause of the phenomenon are much to be desired, but experimentation with Mr. Wells is attended with much difficulty. He is a busy and prosperous young man, not himself interested in the investigation; and, notwithstanding some remuneration given for loss of time, finds it difficult to make the arrangements necessary to enable him to leave his business—that of a baker and confectioner—during the time necessary for the experiment. The consequence is that we have found it difficult to obtain his services at all, have found it still more difficult to make arrangements beforehand, and when Mr. Wells has come have had to work under an inconvenient sense of limited time. We are, however, grateful to him for the opportunities he has given us of trying experiments which must be, to him, very tedious and uninteresting.

We proceed to the precautions taken to exclude, as far as possible,

the operation of expectation. Mr. Wells was, of course, aware of the nature of the experiment, and that one of his fingers was to be made insensitive; but he was effectually prevented from seeing which of the ten it was by two large sheets of thick brown paper, through holes in which his hands were passed. This screen extended in all directions far enough to prevent the possibility of his seeing round it, and the armholes fitted closely enough to prevent his seeing through them. We were unable ourselves to feel, by air currents or otherwise, passes made over our fingers; and unless Mr. Wells' perceptions are more acute, the paper screen seems to reduce the chance of his forming a correct opinion as to which finger was being operated on to 1 in 10. As a further precaution, Mr. Smith's passes were, in most of the experiments, imitated over some other finger by one of the other persons present; so that if the passes could be felt, they might be felt in two fingers. This would not guard against the possible perception of some subtle difference between Mr. Smith's passes and others which eluded our own observation, but it is difficult to see how this can be guarded against. The finger to be operated on was always selected by some person other than Mr. Smith; but the proximity of the operator and the "subject" is such as would make it hard absolutely to preclude the former from informing the latter, by auditory or other signs, which is the selected finger, did he wish to do so. We have, however, every reason to believe Mr. Smith to be as much interested in carrying out a genuine experiment as the other persons present.

The passes made simultaneously over a different finger by another person served further to exclude the second explanation we have spoken of, namely, that the anæsthesia may be due to the effect of mere passes on the nerves. Here again, however, as it seems almost impossible to prove that there is not some mechanical difference between the passes of Mr. Smith and his imitators, which cannot be discerned by the eye, the explanation is not completely excluded; and it is just conceivable that some unconscious mechanical change in Mr. Gurney's mode of making the passes may explain the fact that in one experiment (No. 9) the finger that he operated on imitatively, as well as that operated on by Mr. Smith, became insensitive. This happened again, but to a very slight extent, in experiment No. 12. The fact seems important, though the exact import of it cannot be ascertained without further investigation. It, at any rate, seems to afford an argument against the hypothesis that the effect is due to mesmeric effluence.

This may be the most convenient place to mention two other anomalies observed, and which we cannot at present interpret. In experiment No. 6 Mr. Smith operated on the middle finger of Mr. Wells' right hand, but it was the index finger, and not the



middle finger, which became insensitive and to some extent rigid. And in the next experiment (No. 7) when the fourth finger was operated on with success, the middle finger, which should have been rendered insensitive in the previous experiment, seemed to be to a slight extent affected, though this was a little doubtful. We have no note of reverse passes having been made over this finger after the previous experiment, nor of any imitative passes being made in experiment No. 7. Something of the same kind occurred in experiment No. 19. In the previous experiment the fourth finger of the left hand had been operated on, but only for two minutes and with slight success. Reverse passes were then made and sensitiveness, as we believed, completely restored. In experiment No. 19 the little finger of the right hand was operated on successfully, but the finger of the previous experiment became even more insensitive, and it was not the one over which imitative passes were made.

To test the insensitiveness, electric shocks were given by means of a medical magneto-electric machine. One terminal ending in a cylindrical brass handle, was placed under the palm of Mr. Wells' hands, and contact was made with the finger to be tested by means of the point of a wire forming the other terminal; or, in experiments 10 to 16, with the edge of a cylindrical brass handle. The machine was adjusted to give the strongest current it was capable of, and the handle turned as fast as we could, that is about  $2\frac{1}{2}$  times a second. Each turn of the handle represented about  $8\frac{1}{2}$  turns of the coils. In experiments 10, and 17 to 20 inclusive, care was taken that the palm of the hand, which rested on the electrode, should be moist; and in the last four experiments the point of the wire with which the other contact was made was previously dipped in water. In experiment 16 the palms of the hands were wetted with a sponge *after* the passes had been made, but before the insensitiveness was tested. It was then found that a prick could be felt in the finger operated on, but apparently not the electrical shock; but curiously enough this was the only experiment in which the electrical shock contracted the fingers. The partial insensitiveness quickly disappeared without reverse passes, and renewed passes did not restore it for some time, and then not completely. As we supposed that this might be due to fatigue, the experiments were discontinued for that day. Rigidity was not looked for; but no reverse passes were made, and Mr. Wells, on trying to close his hand after the screen was removed, found the finger to be rigid.

In some of the experiments the insensitiveness was tested by a severe prick (applied in experiments 1 and 15 under the nail) as well as by the electric shocks.

During the first experiment Mr. Bull noticed that Mr. Wells trembled a good deal, suggesting an exercise of self-control. But it is

not unlikely that the trembling was simply caused by the rather violent tremor in the table on which his hands rested, caused by turning the electrical machine. In experiment No. 5 Mr. Bull observed the same trembling, but did not think it coincided with the severest shocks; and his final opinion was that the trembling had had no emotional significance. Care was taken throughout the experiments to turn the machine when no contact was made, so that the exact moment of the shocks should not be known by the shaking or the sound. During the last six experiments of March 21st, Mr. Wells was reading to himself behind the screen, and as far as we could judge went on doing so calmly when the shocks were applied. During two of these experiments Dr. Myers especially noticed that the motion of his eyes travelling across the page was quite equable, which seems a good proof of unconsciousness of pain. On July 3rd Mr. Wells was engaged the whole time in conversation with Dr. Myers, and during the last experiment especially he was talking steadily and confidentially. Dr. Myers had good opportunity of observing the pupils of his eyes, and could see no change due to pain. The proof of insensitiveness is therefore, we think, pretty complete.

The following is a synopsis of the experiments. The fingers are numbered in order beginning with the thumb of each hand, and the hands are distinguished as R. and L., so that, for example, L2 means the index finger of the left hand. All the experiments are included.

*Experiments of March 20th.*

No.	Finger operated on by Mr. Smith.	Finger operated on imitatively.	Apparent Result and Remarks.	Degree of Success.
1	L 2	Two other fingers	L 2 insensitive to severe pricks and electric shocks, and in some degree rigid. (When the hand was closed L 2 followed the other fingers very slowly)	Success.
2	R 3	A finger of L	Experiment broken off because Mr. Smith was thought to have touched the finger.	
3	R 2 at about 2in. distance.		No result.	Failure.
4	R 2 at about lin. distance.		No result.	Failure.
5	L 2 stroked.		Insensitiveness to electric current.	

*Experiments of March 21st.*

No.	Finger operated on by Mr. Smith.	Finger operated on imitatively.	Apparent Result and Remarks.	Degree of Success.
6	R 3	L 3 by A. T. M.	R 2 and <i>not</i> R 3 became insensitive to severe prick and electric shock, and in some degree rigid.	Doubtful.
7	R 4	0	R 4 insensitive, and R 3 perhaps partially so.	Success.
8	L 3	R 4 by E. G.	L 3 alone insensitive.	Success.
9	R 5	L 2 by E. G.	<i>Both</i> R 5 and L 2 insensitive and rigid.	Doubtful.
10	R 1	L 5 by E. G.	R 1 alone insensitive and rigid.	Success.
11	R 4	L 4 by E. G.	R 4 alone insensitive. R 4 and R 5 both remained extended when the hand was clenched, but this was probably due to the well known muscular connection between those fingers.	Success.
12	L 2	L 5 by E. G.	L 2 insensitive. L 5 insensitive to prick, but when afterwards electricity was applied was sensitive. L 2 only rigid.	Doubtful.
13	L 5	R 2 by E. G.	L 5 alone insensitive and rigid.	Success.
14	L 1	R 2 by H. S.	L 1 alone insensitive and rigid.	Success.
15	L 5	L 1 by E. G.	L 5 insensitive (it was tested both by severe prick under nail and by electric shock) and rigid.	Success.
16	R 3	L 5 by E. G.	The hands were sponged after the passes had been made. R 3 was then sensitive to prick but not to electric shock, though contracted by it. Complete sensitiveness shortly recovered without reverse passes, and insensitiveness not renewed by further passes. R 3 rigid, however.	Doubtful.

*Experiments of July 3rd.*

No.	Finger operated on by Mr. Smith.	Finger operated on imitatively.	Time during which the passes were made.	Apparent Result and Remarks.	Degree of Success.
17	R 2	L 3 by H.S.		R 2 slightly insensitive to electric shock and not completely rigid. There was plenty of opportunity given to Mr. Wells in this case of knowing which finger Mr. Smith was operating on.	Doubtful.
18	L 4		2 minutes	L 4 very slightly insensitive. Reverse passes made.	Doubtful.
19	R 5	L 2 by H.S.	5 minutes	R 5 decidedly insensitive, but L 4 rather more so. Neither rigid.	Doubtful.
20	R 3	L 5 by H.S.	3 minutes	R 3 alone quite insensitive and rigid,	Success.

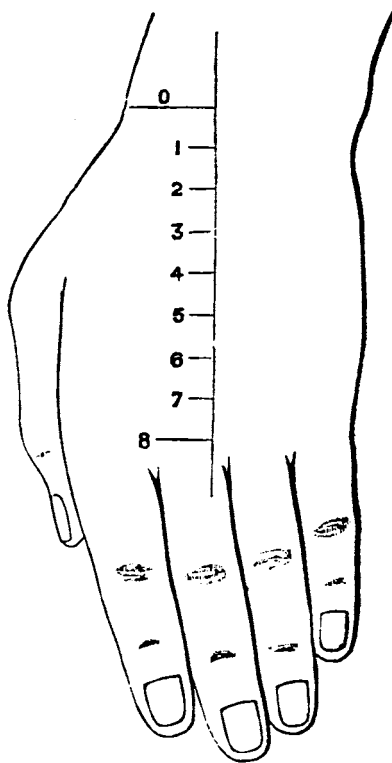
## V.

## REPORT ON AN ALLEGED PHYSICAL PHENOMENON.

*Committee* :—WILLIAM CROOKES, F.R.S. ; VICTOR HORSLEY, F.R.C.S. ;  
W. C. BULL, F.R.C.S. ; and A. T. MYERS, M.D.

On April 17th, 1885, Mr. Husk met us at 24, Clarges Street, and courteously agreed to such slight inconveniences as our examination of necessity involved.

We found a metal ring on his left forearm ; and our inquiry was



limited solely to the determination whether that ring could have come into the position it then held by known natural forces.

The ring was of iron, solid, formed of a continuous bar, skilfully

welded in one place, bearing marks of a file throughout, especially near the place of welding. The internal circumference (as determined by the mean of two independent measurements, differing from one another by 1mm. only) was 182.5mm.; the thickness of the iron, 4.5mm. In shape it was roughly elliptical, the length of the major and minor axes being 68mm. and 48mm. The hand was fairly normal in size and proportion, and contained no soft tissues in excess; all the joints were loosely articulated; the fingers turned slightly outwards. No scars were observed. A short transverse line was drawn on the back of the hand at the level of the lowest point of the styloid process of the radius, and at right angles to it another line down the long axis of the third metacarpal bone, to the centre of the knuckle of the middle finger (third metacarpo-phalangeal joint). The length of this was found to be 8 centimetres, as shown in the diagram. It was divided into eight parts, and used to determine some other measurements.

The hand was held out loosely, with the fingers in nearly complete extension, and the thumb turned inwards and lying across the palmar surfaces of the hand. In this position, under slight compression, the greatest circumference of the hand was found to be 230mm. Before other measurements were taken, the hand was reduced to a more compact shape by gentle manipulation; it was "troughed," i.e., the inner and outer palmar surfaces were approximated, the back was thereby made more convex, and the thumb was drawn downwards and inwards, so as to lie almost completely in the trough so formed in the palm of the hand. Measurements of the circumference were then taken, first with metallic tape, afterwards with copper wire, at points marked in the diagram: moderate, but not painful pressure was used at the moments of measurement. The measurements showed:—

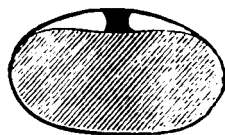
	With Metallic Tape. mm.		With Copper Wire. mm.
At 0 .....	148	0 .....	147
1 .....	—	1 .....	171
2 .....	184	2 .....	183
3 .....	—	3 .....	189
4 .....	195	4 .....	192
5 .....	200		
6 .....	198	6 .....	194
8 .....	200	8 .....	193

The measurement at 5, with the metallic tape, was repeated after flexure of the wrist, but showed no appreciable difference.

The greatest circumference of the hand, measured as described before it was "troughed," exceeded the internal circumference of the

ring by 47.5mm., or about 1½in.; after it had been "troughed," by 11.5mm., or under ½in.

Where the ring fitted most loosely, *i.e.*, about an inch above the wrist joint, it was found easy to insert between it and the forearm a solid body of about 23mm. square, as is roughly shown in section.



It was considered that any attempt to take measurements of the smallest circumference to which Mr. Husk's hand could be reduced, would necessitate considerable pressure for the emptying of the blood-vessels as far as possible, and the decisive elimination of all voluntary or involuntary muscular contraction,\* and might possibly be so painful as to be unjustifiable without the administration of an anæsthetic. As Mr. Husk was disinclined for this, no such attempt was made.

Mr. Victor Horsley subsequently took measurements, with metallic tape, of the circumference of the right hands of three men—Mr. Crookes assisting in two of the cases—(1) under the same conditions as those applied to Mr. Husk; and (2) again when they were under the full influence of ether, but no other additional means had been taken to reduce the volume of the hand, *e.g.*, by pressure, &c., &c. The points of measurement were distant 1, 2, 3, &c., centimetres from the styloid process of the radius, along the metacarpal bone of the index finger, after the plan adopted with Mr. Husk. The results were as follow:—

## No. 1.

Distance from styloid process.	Circumference in mm. before etherisation.	Circumference under full etherisation.
1	182	179
2	200	193
3	210	198
4	218	204
5	220	205
6	225	210
7	224	215
8	222	215
9	214	205

## No. 2.

1	184	176
2	204	196
3	213	203
4	214	207

\* Such contraction of the intrinsic muscles of the hand was felt to occur during the "troughing" of the hand.

Distance from styloid process.	Circumference in mm. before etherisation.	Circumference under full etherisation.
5 .....	212 .....	210
6 .....	209 .....	204
7 .....	209 .....	201
8 .....	200 .....	190

No. 3.

1 .....	155 .....	149
2 .....	175 .....	162
3 .....	189 .....	180
4 .....	195 .....	189
5 .....	196 .....	188
6 .....	191 .....	186
7 .....	189 .....	188

These show a decrease in the three largest measurements of an average of 10mm.

The conclusion to which we are brought is, that under the conditions of measurement in Mr. Husk's case, the greatest circumference of the hand exceeded that of the internal circumference of the ring by 11·5mm., or rather less than half-an-inch; and that, as we do not consider these conditions to be those best adapted to reduce the circumference of the hand as much as is possible, we cannot infer that it is impossible that the ring should have come into the position in which we found it by known natural forces.