

THE CASE AGAINST SPIRIT PHOTOGRAPHS

BY
C. VINCENT PATRICK
AND
W. WHATELY SMITH

The authors critically discuss the credentials of Spirit Photographs from the standpoint of strictly scientific Psychical Research, and give their reasons for declining to accept these alleged phenomena as genuine.

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CONTENTS

	PAGE
I. INTRODUCTORY (W. Whately Smith) - - -	5
II. HISTORICAL (C. Vincent Patrick) - - -	7
III. FRAUD (C. Vincent Patrick)	
A. <i>General Methods</i> - - -	15
B. <i>Experiments in Fraud</i> - - -	21
C. <i>Internal Evidence of Fraud</i> - - -	27
IV. SPIRIT PHOTOGRAPHS OBTAINED BY AMATEURS (C. Vincent Patrick) - - -	31
V. THE FAIRY PHOTOGRAPHS (C. Vincent Patrick) - -	33
VI. THE RELIABILITY OF WITNESSES (W. Whately Smith) -	36
VII. THE VALUE OF RECOGNITION (W. Whately Smith) -	39
VIII. RECENT LITERATURE (W. Whately Smith) - -	42
IX. REAL TEST CONDITIONS (W. Whately Smith) - -	45



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By C. VINCENT PATRICK AND W. WHATELY SMITH.

I.—INTRODUCTORY

(W. WHATELY SMITH)

SPIRIT photographs have long been a source of controversy and discussion, and signs are not lacking that public interest in them is at least as keen as ever. A Society for the Study of Supernormal Pictures has, for example, been formed recently, and it is by no means uncommon to meet people who owe much of their belief in Spiritualism to the results they have obtained through photographic mediums. This considerable public interest would alone suffice to make the subject important, but, apart from this, it is clear that if all—or even a fraction—of what is claimed be true the phenomenon must be of unique value from the point of view of strictly scientific research.

Photographic phenomena differ from practically all others studied by psychical researchers in being, so to speak, permanently objective. If one could be sure that the results obtained were not due to trickery one would be in a far better position as regards the problems of their origin and so forth than one is in the case of other types of “physical” phenomena. One could collect spirit photographs, compare them with one another, correlate their differences with the varying conditions of their production, and generally study them at leisure—a procedure which is not possible with table-levitations, materialisations, or direct-voice phenomena.¹ The photographic plate would, in fact, be the most powerful of all weapons of research if only we could eliminate all possibility of fraud. This is, as usual, the crux of the whole matter, and, as my collaborator and I hope to show, it is not nearly so easy to do as might appear at first sight.

Spiritualists commonly assert that photographic phenomena are easier to control than any others, and this is in a sense true. They would be easy to control *IF* one were allowed to take the necessary precautions. But one is not, and under the conditions which actually prevail at photographic *séances* the procedure lends itself to fraud more readily, and in more diverse ways, than any other form of mediumistic activity. Photography is a comparatively complicated process, and

¹ I am assuming, for the purposes of comparison, that these later phenomena actually occur—a point on which I am doubtful.

at every stage there is opportunity for the astute trickster to produce the effect he desires. Part of the proceedings, moreover, *must* take place in a light which is inimical to accurate observation, and it should not be forgotten that, as a rule, the "sitter" is immobilised and placed *hors de combat*, so to speak, for an appreciable period while his photograph is being taken. (The significance of this will appear later.)

The various fraudulent methods which are or may be used and the question of the reliance which should be placed on the statements of those who believe that they have watched the proceedings so carefully as to exclude the possibility of fraud will be discussed at length later in this paper. I may as well say at once, however, that I see no reason for believing that any spirit photographs are, or have ever been, due to any cause other than fraud.¹

But before discussing the various considerations which appear to justify this view I should like to make it clear that I, personally, am very willing to be convinced *if and when adequate evidence is forthcoming*. The question of what kind of evidence should be considered adequate is one which will be easier to answer after the various possibilities of fraud which must be eliminated have been pointed out. So far as I myself am concerned, I am prepared, further, to admit that photographic phenomena appear to me to be less improbable on general *a priori* grounds than many other alleged events of supposedly supernatural origin. We know that the camera can detect, or rather that the photographic plate is sensitive to, ether waves which produce no effect on the retina of the human eye, and it seems, on the whole, less improbable that "spirits," if they exist, should produce subtle and relatively minor etheric disturbances of this kind than that they should be responsible for the movements of gross material objects in the way which is often claimed for them.

I maintain this merely to guard, so far as may be possible, against the accusations of prejudice which will doubtless be brought forward by some readers. *A priori* considerations of this kind have their legitimate place, but it is on the relevant facts that our final decision must be based. On *all* the relevant facts. This is the important point. It may be a "fact" that some great wise and eminent man states that he took such and such precautions, "never let the plates (or slides) out of his sight," and so forth, but it is necessary to take into account, along with such statements as this, other facts about the psychology of deception, the reliability of witnesses, the potentialities of fraudulent methods and so forth which are usually ignored by enthusiastic devotees of the subject.

¹ I exclude, of course, the very rare instances when photographs of apparently supernormal origin have been obtained by amateurs of unimpeachable integrity. I have yet to meet with a convincing case of this kind.

One does not wish to be too dogmatic, there *may* be such things as *bona fide* spirit photographs, and when satisfactory evidence is forthcoming one will be very pleased indeed to make the *amende honorable* and acknowledge one's fault.

But in view of the many methods of trickery which are available and the known incapacity of untrained observers to detect fraud the evidence at present available seems scarcely worthy of serious consideration.

II.—HISTORICAL

(C. VINCENT PATRICK)

During the last half-century—that is, practically since the introduction of the photographic plate—various abnormalities have been reported in developed photographs. Some of these have appeared to reputable observers to be incapable of natural explanation, and have been eagerly seized upon by spiritualists as proof of survival after death—the sensitive emulsion being supposed to have recorded the presence of spirits, otherwise invisible. It is evident that a permanent photographic record, if its genuineness can be established, would stand almost alone as evidence of the presence of the spirit-forms described by clairvoyants.

Various types of such photographic abnormalities must be distinguished :

1. "Thought photographs," "dream photographs," photographs of "psychic auras," and the like. These are rarely distinct, and as they have little bearing on spirit phenomena they will not be discussed here.

2. Photographs taken of a visible spirit form. Such have been taken at *séances*: e.g., by Sir William Crookes, of Miss King's "control," Katie. The photographs taken recently at the Goligher circle should perhaps be included in this category. Similar experiments might, perhaps, be carried out in a "haunted house"—provided that one can be found which bears investigation.

3. The more usual type of "spirit photograph," with which this article is chiefly concerned. Here a plate is exposed upon a sitter or sitters, and on development an "extra" appears, varying from splashes of light to fully-formed features or figures. The presence of a medium is usually regarded as being essential for such phenomena ; but similar appearances have occasionally been obtained by amateurs on several well-attested occasions, either unexpectedly, or upon plates deliberately exposed for the purpose, no professional medium being present.

4. In some cases the plates are not exposed in a camera, but merely submitted to "spirit influences," which results in more or less distinct faces, or even screeds of writing, appearing on development.

It is not perhaps surprising to find that the spirit photograph originated in America, where it dates back to the days of the wet-plate process. The first recorded case comes from Boston, in 1862. One Mumler, an engraver by trade, made chemistry and photography his hobby ; and having among his friends a professional photographer, he was frequently dabbling with plates and chemicals in his studio. Up to this time he had shown no mediumistic tendencies, although it is safe to assume that he must have known something of spiritualism, since this was attracting much attention in America at the time.

One day Mumler suddenly produced a photograph of himself, standing, with a chair by his side supporting a shadowy female figure. The face of this figure was not clear, though the upper part of the body was fairly well defined ; below the waist it faded away. The chair and background were distinctly visible through the extra. He alleged that this was an untouched photograph, which he had taken by focussing the camera on the chair, inserting the plate, and standing by the chair for the period of the exposure. This picture raised a considerable stir, and Mumler published the following declaration in the press : " This photograph was taken of myself, by myself, on Sunday, when there was not a living soul in the room beside myself—' so to speak.' The form on my right I recognise as my cousin who passed away about twelve years since.—W. H. MUMLER."

Not unexpectedly, other people soon wanted their dead relatives to be photographed with them, and Mumler's services were in considerable demand. Many of his sitters were rewarded with extras, and he soon started a regular business, claiming that he was a medium for taking spirit photographs. His pictures aroused much interest both in America and in this country, and he evidently found it a paying business. The following advertisement with regard to copies of his photographs appeared in the *Spiritual Magazine* for 1863 :

" The packet of three photos may be obtained from Mr. Pitman, 20, Paternoster Row ; price 3s. 6d."

Very few copies of Mumler's photographs still exist ; they are all similar in their general characters to the first. Noteworthy points are that the spirits are always without legs, and are usually on the right of the sitter. A considerable number of his extras, indistinct though they were, were recognised by the sitters and their friends as the dead person whose photograph they were expecting. (The value of these recognitions is dealt with in a later section.) Naturally, cries of fraud were raised, and investigators, consisting of men of science and newspaper representatives, devised " test conditions " to eliminate this possibility. This they did to their own satisfaction, and obtained spirit

extras ; but on reading their accounts it is easy to see that ample loopholes were left for fraud. In some cases the camera and lens were minutely inspected, and Mumler's operations carefully supervised, but a glass plate provided by Mumler was used for the sensitised emulsion. (How this renders a natural explanation of the extra possible is explained in the section on methods of fraud.) In other cases where tests were instituted the developing-room was in complete darkness, no ruby light being used, which put the investigators completely in the medium's hands.

On one occasion Mumler was persuaded to forsake his studio for the private house of an investigator. Here he was not allowed to use any of his own apparatus—camera, plates, and chemicals all being provided for him. The result was a complete failure to get anything abnormal on the plates. Mumler explained that he “thought his (medium's) influence had not been sufficiently long in contact with the chemicals.” This one can readily believe.

He presently became bolder, and his spirits' features became more distinct. This led to a bad mistake, for in February 1863 the sceptics were able to show that one of Mumler's spirit extras was the likeness of a man still alive, and living in Boston ; and, worse still, that this man had had his photograph taken by Mumler a few weeks before. Such carelessness on the part of the spirits ruined a promising business, for after the outcry which followed we hear no more of Mumler for some six years.

In 1869 he appeared again in New York, and commenced business on his old lines. Before he had been practising many months, however, the public authorities arrested him, and prosecuted him for fraud. At the trial the Boston evidence was disallowed and consequently little positive evidence of fraud was brought against him, for he had only been practising in New York for a short time. The chief ground of the prosecution was a spirit extra which he represented to be a dead relative of the sitter's, whereas the latter declared it to be utterly unlike the relative in question. The trial was interesting, in that Mumler was defended by many of his sitters, who swore that they recognised his extras as their dead friends ; and by others, including a professional photographer, who had investigated his processes and had found no evidence of trickery. He was acquitted for lack of evidence on the part of the prosecution ; but he apparently gave up producing spirit photographs, for no more is heard of him.

Three years later spirit photographs were being taken in this country. Hudson, the principal exponent, was introduced by Mrs. Guppy, a well-known medium of the time. His performance was on the same lines as Mumler's, and his results similar, the faces of the extras being always partly obscured and the figures draped. Nevertheless, many of them were recognised. The usual unsatisfactory

tests were applied by the more sceptical sitters ; in particular we have the report of an optician named Slater, who took his own camera and lenses to Hudson, obtaining "a fine spirit photo" and observing "no suspicious circumstances." However, a less easily duped critic soon appeared, in the person of one Beattie, a professional photographer of Clifton, and a man of high repute. He showed that in many of Hudson's photographs not only did the background appear through the extra—as might perhaps be expected with an ethereal spirit—but that the background was clearly visible through the very material bodies of the human sitters ! Sometimes the backgrounds had a double outline ; and in one case at least he was able to point out that clumsy attempts had been made to obliterate, by retouching, the pattern of a carpet showing through the legs of the sitter. All this clearly pointed to double exposure and fraud ; and Beattie was joined in denouncing Hudson by the editor of the *Spiritualist*. In fact, on closer inspection, Hudson's pictures were found to be very poor frauds indeed ; some of the "spirits" were stated by the critics to be Hudson himself dressed up !

Much controversy followed this exposure ; while many declared that spirit photographs were an utter fraud, others considered that though some were genuine, mediums frequently obtained their spirits by trickery in order not to disappoint their sitters. Few went so far as to declare their belief that the phenomena were *all* genuine, and these few were mostly those who had identified as their dead relatives the extras presented to them. Ingenious explanations were offered by them of the appearances pointed out by Beattie ; the spirit aura was, they declared, doubly refracting ; hence the legs of a chair might, by atmospheric refraction, appear through the legs of its occupant. It is possible that the unscientific were impressed by such explanations. Support was certainly lent to them for a time by the statements of Mr. Russell, of Kingston-on-Thames. Working as an amateur for his own satisfaction, he declared that he had obtained spirit photographs showing evident signs of double exposure, whereas only one had taken place. Challenged to produce his plates, however, he demurred, and eventually said that they had been accidentally destroyed.

Disgusted by the trickery he had detected in Hudson, Beattie determined to experiment for himself as to whether genuine spirit photographs could actually be obtained. He accordingly set to work with some friends, one of whom was reputed to be a medium, and held many *séances*, exposing dozens of plates with but little result. He procured as his dark-room assistant a certain Josty, whose character, unfortunately, appears not to have been above suspicion. Thenceforward streaks and splashes of light were obtained on some of the plates, though the *séances* were mostly blanks. Josty discovered himself to be possessed of clairvoyant faculties, and declared that he

saw spirits at the *séances* ; the marks on the plates would then appear in the positions he had indicated. These marks had only the very slightest resemblance to human figures: one is described as being like a dragon. Out of several hundred plates, thirty-two bore these marks. Beattie's integrity was never challenged ; but it has been suggested that Josty produced the smudges on the plates—as he very easily could do—in order to keep himself in employment of a light and lucrative character. In any case, the results obtained were so trifling, and so different from the usual professional medium's photographs, as to be chiefly of value as negative evidence.

Similar experiments were made by Dr. Williams, of Haywards Heath. He exposed plates, in the hope of obtaining spirit extras, over a period of eighteen months. Out of many hundreds, he obtained three plates with unexplained marks on them, one of which bore some resemblance to two eyes and a nose. He also claimed that a complete human figure developed on one of his plates, only to disappear again ; this could scarcely have had any objective existence, since there was no trace of it in the finished negative. The value of his experiments, also, can only be considered as against the occurrence of spirit photography where trickery plays no part.

In the summer of 1874 there came to London a Parisian photographer named Buguet, who represented himself as able to photograph spirits. Besides being a more skilful photographer than his predecessors, he appears also to have had a sense of humour. The spirit faces of Dickens, Charles I., and other celebrities appeared in his photographs ! His spirits had clearly-defined features, and were much better productions than anything that had appeared before. Many well-known people sat to him, and were duly rewarded with the spirit features of their equally well-known friends. Next year he returned to Paris, and, continuing in business there, produced among other things a photograph of Stainton Moses, the spiritualist, while the latter was lying in a trance in London, his spirit being supposed to have visited Buguet's studio in Paris.

Before he had been back long, however, the French authorities intervened. His studio was raided by the police and a large stock of cardboard heads, a lay figure, and other incriminating paraphernalia were found. Buguet was arrested and charged with fraud. At the trial he made a complete confession. All his spirits had, he said, been obtained by double exposure. At first his assistants had acted as the ghosts, but this soon became dangerous on account of constant repetition of the same features, and he procured the lay figure and cardboard heads for the purpose. He also explained how he employed his assistants to extract all possible information from the sitters, as to the facial characteristics of the spirits they were expecting. And then came the extraordinary feature of the trial. In spite of the damning

material evidence against him, and of his own confession, witness after witness came forward to defend him ! They said they had sat to him and obtained unquestionable likenesses of their dead relations, and had satisfied themselves that no tricks were played upon them. In spite of Buguet assuring them in court that they had been deceived, they maintained that it could not be so. Buguet pointed out to the court one face which had been recognised as the mother of one sitter, the sister of a second, and the friend of a third. One spirit, recognised by a sitter as his lifelong friend, was declared by another man to be an excellent likeness of his still-living—and much annoyed—father-in-law. Buguet was convicted and sentenced to twelve months' imprisonment and a fine of 100 francs. It was maintained by spiritualists in England that he had been bribed to make a false confession ; and after the expiry of his sentence he appears to have told the same tale. This, however, quite fails to explain the finds made at his studio by the French police.

At the time of Buguet's trial, another spirit photographer, Parkes by name, was practising in London. He never produced photographs of any value, as he gave but little opportunity of watching his proceedings in the dark-room ; nor were many of his extras recognised. Nevertheless there are certain points of interest in his career. Some of his plates showed evident marks of double exposure ; he was adroit enough to write articles to the spiritualistic papers, drawing attention to this fact and suggesting theories to account for it. It had been previously assumed by spiritualists that the spirit forms, although invisible to the eye, were present at the side of or behind the sitter, and that their images were projected on to the plate by refraction through the lens in the ordinary way. Hence their images on the plate would be inverted, like the image of the sitter. Parkes, however, described an experiment, which he professed to have carried out, throwing doubt on this. He placed, he said, a mirror obliquely across the camera between the lens and the plate, so as to project the image of the sitter and background on to a second plate at the side of the camera—the same principle employed in the viewing screen of the modern reflex camera. He said that the position of the spirit photograph was unaffected by the mirror, and that the extra still appeared on the plate at the back of the camera, while the sitter and background were naturally only photographed on the side plate. He further declared that the spirit was not affected by the lens, and appeared *erect* on the back plate, instead of inverted as a normal photograph would be. The absurdity of this statement is evident when we realise that in his ordinary photographs sitter and spirit appeared the same way up—*i.e.*, both inverted on the plate ; in order to effect this and comply with his other statement, the spirits would have to be standing on their heads beside the sitters ! Now Parkes also professed to have

clairvoyant power, and claimed actually to see the spirits standing with the sitters ; as he never mentions them adopting the inverted attitude we may safely assume that they did not put themselves to this discomfort. One, at least, of Parkes' statements must therefore have been false.

On one occasion, however, his spirit extra *did* appear upside down. The plate—supplied by the sitter—was loaded into the camera by Parkes in the usual way, and all was ready for the exposure when a photographer present requested that the plate be inverted in the camera. This was done, and the exposure made ; with the result that on the developed plate the spirit was inverted with regard to the sitter. It was indeed fortunate for Parkes' reputation that the company present were able to affirm that the plate on which this occurred “ had never been in Parkes' possession before ” !

Since 1875 a number of spirit photographers have practised in this country, but few have attained any note. Not many people have considered their claims seriously, any critical investigation soon finding cause for suspicion, if not actual evidence, of fraud. Perhaps the two best known are Boursnell, who was taking spirit photographs in London during the first decade of this century, and Hope, of Crewe, who has now been practising for many years, and has attained considerable proficiency in the art. The conditions allowed have never been such as to preclude fraud, and the general method of procedure and results obtained have been so similar to those of their predecessors as to need no separate description. In 1909 a Commission was appointed, under the auspices of the *Daily Mail*, to investigate the subject. The Commission consisted of three spiritualists and three expert photographers ; at the conclusion of the investigation the photographers reported with regard to the results obtained that “ they would not testify to their supernatural production ; they bore on the face of them evidence of the way in which they had been produced.” They pointed out that some of the plates had been exposed twice, as shown by the marks on the edges caused by two different patterns of dark slide. The spiritualists, on the other hand, reported that “ the photographers were not in a proper frame of mind ” to obtain results.

In America the movement has always found rather more adherents than in this country. Spirit photography has been practised in different parts of the United States practically since Mumler's time to the present day ; the same medium usually producing other kinds of spirit phenomena as well. The conditions under which most of these photographs have been taken, and the ridiculous results obtained, renders them unworthy of serious consideration. It is quite usual to find in the background of these photographs a dozen or more heads, of all shapes and sizes, and with all kinds of headgear ; bunches of flowers often appear, and even a spirit buttonhole sometimes ornaments the

lapel of the sitter's coat ! An amusing account is given by Hereward Carrington¹ of a visit to a medium of this type at Lily Dale in 1907 :

" On arriving at Mr. Norman's house I was obliged to wait for some time on the verandah, as he was busy inside the house with a 'customer.' When he came out I was invited to sit 'just where I was,' and the medium disappeared into the house, and the next minute came out carrying a large camera and two plates, already in the slide, prepared. There was a white chalk-mark on one side of the double-back plate slide, and this side was carefully inserted foremost. Mr. Norman erased the chalk-mark with his finger as he inserted the slide into the camera. I posed, and the photograph was taken.

" Next we went indoors. The plate slide was reversed, and the room placed in total darkness. I was informed that 'the spirits would materialise their own light,' and that none was needed. This was 'where the mediumship came in.' The second plate was then exposed, the cap being removed about a minute. During that minute I was informed that I 'should sit for physical manifestations,' and the medium asked me if I had ever sat to a spirit photographer before. . . .

" When, however, I asked the medium to allow me to examine the process of development of the plates, he flatly refused to allow anything of the kind ! I said cautiously that I should think it would be very interesting to watch the development of a plate upon which might appear spirit faces ; the answer was that these faces developed in exactly the same manner as any other faces. I replied that I should like to watch the process in order to convince myself that they developed in the manner stated, and that they were not already on the plate. The result was to bring forth a flat refusal to allow me to watch the process of development ! It need hardly be said that this refusal to allow any test conditions of the most elementary order deprives the photographs of all evidential value ; and definite evidence of fraud was brought against this medium at a later date. For when the photograph was examined, none of the faces bore the slightest trace of any family resemblance ; and, more than that, the photograph showed unmistakable signs of fraudulent manipulation. One of the faces, that of a woman, upon being examined through a magnifying glass, clearly shows the miniature indentations made by the electric needle in reproducing newspaper cuts. This is clearly noticeable in the forehead, but can be seen to extend all over the face, even with the naked eye, examined carefully. This face was therefore copied from some newspaper or magazine, reproducing it from the paper in which it originally appeared. The other faces show clear marks of manipulation."

A new method of procedure in taking spirit photographs was

Hereward Carrington, *The Physical Phenomena of Spiritualism*.

apparently introduced by one Wyllie, of San Francisco, about 1903. No camera was used ; the plates were unpacked in the darkroom and held by the sitter, Wyllie simply placing his hands on the plate for some seconds. On development, a face or faces, more or less blurred, would appear. These were never larger than the print of a thumb, which suggested to Dr. Pierce—who was investigating Wyllie's methods—that they were possibly produced by chemicals pressed into contact with the plate. He therefore made Wyllie wash his hands before entering the dark-room, but the extras still appeared. It would, of course, have been a simple matter for the medium to have had concealed about his person a slip of thin card or a small rubber stamp, with an "extra" sketched on it in some suitable chemical ; when in the dark-room this would be palmed and applied to the plate. Dr. Pierce, however, evidently considered the results were genuine spirit manifestations, and the next year carried out a series of experiments by himself in London. Needless to say, he found that without Wyllie's mediumship no results could be obtained.

Another modern development, which has been largely exploited by Hope, of Crewe, is the "psychograph." For this, again, no camera is used ; a plate is carefully wrapped up, usually sealed, and submitted to the medium's influence. The plate is then developed by the victim, and screeds of writing appear, usually arranged in circles instead of lines. Sometimes the plate is sent to the medium through the post, carefully wrapped and sealed, and returned apparently unopened a few days later. On development, the message appears—and the most banal rubbish it usually is. Yet many people actually believe that these productions are the means adopted by higher intelligences to communicate with us. Surely such folk must be lacking in a sense of humour ?

III.—FRAUD

(C. VINCENT PATRICK)

A.—General Methods

The taking of spirit photographs under so-called "test conditions" has frequently been carefully investigated by men of high reputation in other walks of life, chiefly men of letters and men of science. In many cases they have been unable to detect any trickery, and after due consideration have decided that they know of no natural means by which the results obtained could be produced, under the conditions employed. This is in itself a perfectly fair conclusion ; but it does not follow that because they know of no natural method, no such method

can exist ; unfortunately the argument is frequently carried to this stage. Let us suppose that an eminent physicist watches a sleight-of-hand conjuror, who produces a dozen or more eggs from a small velvet bag, which was unquestionably empty when examined by the audience a few seconds previously ; he will certainly not assume mediumistic powers on the part of the conjuror, or postulate the materialisation of a spirit hen. He realises that he is being deceived ; he has had no training in conjuring, and does not know what to look for in order to "see through " the trick. How, then, does he expect to be able to detect a trick played upon him, probably in the dim light of a photographic dark-room, by a clever medium who has every method of trickery at his fingers' ends ? Even if he knew what to look for, the chances would be all in favour of the medium under the conditions which usually obtain ; and in actual fact he probably has no idea of the multiplicity of methods which may be used for his deception. It seems therefore desirable to enumerate some of the many methods by which spurious spirit photographs may be produced. The following list makes no pretensions to being complete, but may give some idea of the variety of methods which the accomplished spirit photographer has at his service.

Group I.—Methods Involving Double Exposure and Substitution, in which a plate previously prepared with an undeveloped extra is substituted for the plate provided by the sitter. This gives excellent photographs, as the extra may be as distinct in detail as is desired, and the exposures can be calculated to a nicety, giving a suitably transparent spirit with a more solid portrait of the sitter. The substitution of the plate may be effected at almost any stage in the proceedings, for example :

(a).—Methods involving substitution of the entire packet :

1. The medium may be in league with the shop from which the plates are purchased, the unfortunate sitter buying a box of plates already prepared with spirits. Wise sitters buy their plates at a distance, but mediums frequently demand a particular brand of plate, and if those brought by the sitter are declared unsuitable, he will have to go out and purchase the correct ones. He is naturally supplied with the address of the nearest photographic dealer, and the name of the brand of plates is written on a slip of paper to show the shopman ; this ensures no mistake being made.

2. If the sitter brings the right plates he will show the packet to the medium before entering the dark-room to make sure that they are all right. The medium takes the packet into his hand for a moment—turning to the light to read the label—and passes them back with the remark that they are the right kind—which now they certainly are, for the sitter's original packet is in the medium's breast-pocket.

3. The sitter may perhaps autograph or otherwise mark his packet

before coming to the medium, in order to prevent any such substitution. In this case the medium will wait until the wrapper is torn off in the dark-room, when he may be able to handle the box for a moment on some pretext,¹ and the dim light makes the substitution easier than before, particularly as it occurs during the first minute or so in the reduced light before the sitter's eyes have become accustomed to it.

If these methods are employed, the medium usually finds it necessary previously to mark the plate or plates in the box that have the latent extras, in such a way that he may be sure of not getting the spirit inverted: a slight scratch on one edge will suffice for this.

(b.)—Methods involving substitution of the faked plate only, after removal from the original packet:

1. With an unwary sitter this may be done in the dark-room. The sitter usually marks the plates; while he is marking one, the medium may be able to exchange his prepared plate for one of those not yet marked.

2. A trick dark-slide may be used, having a secret partition, and already containing the faked plate.² If the sitter is content to mark the plate after it is placed in the slide, he may easily be caused to mark the prepared plate instead of his own.

3. If the plates are not marked, it will be a simple matter to substitute, during the focussing operations, a duplicate slide containing a faked plate.

4. Little accidents are apt to happen in the unaccustomed light of the red lamp; while the sitter is groping on the floor for a wrapper he has dropped, or while his attention is in some other way diverted for a moment, the exchange is made.

I am aware that many will ridicule the idea of such a simple trick being played upon an intelligent observer; but any conjuror, whose business it is to do this kind of thing, knows that it is remarkably easy.

5. Sometimes the first photographs taken are blanks, the sitter then returns to the dark-room and loads up some fresh plates out of the packet. It may not occur to him that an accomplice of the medium has had access to the dark-room in the meantime, and when he gives his account of the *séance* a few days later he will probably have entirely forgotten that the plates were not all loaded at once.

Substitution can, of course, be effected in many other ways; every medium probably has his favourite method which he chiefly practises.

It may be pointed out here that in the case of a regular sitter who always marks his plates in the same way, as most do, it would not be

¹ *E.g.*, to verify the "speed" of the plates.

² *Cf.* trick slates used by slate-writing mediums.

at all difficult to forge his signature on a prepared plate and substitute this for one of the marked plates.

Group II.—Other Methods, conveniently classified as follows :

(a).—Methods involving preparation of the studio :

1. An accomplice may be concealed behind the sitter, and be photographed with him ; this is the simplest way of all, the sitter facing the camera, and, being told not to move during the exposure, is unaware that a “ spirit face ” is behind him, framed in an unsuspected opening in the background. Being behind the sitter, the face will be a little out of focus, and will appear rather blurred on the negative.¹

2. It has been suggested that a mirror, or sheet of glass—on the principle of “ Pepper’s Ghost ”—may be introduced behind the sitter, producing the spirit by reflection of an accomplice hidden from the sitter. In practice this would be rather complicated and difficult to conceal ; it would seem to have no advantage over the preceding method.

3. The extra is frequently sketched on the background—especially if this be a plain one—in some fluorescent substance, such as quinine sulphate. Such a sketch is invisible to the eye, but visible to the photographic plate. Many of Boursnell’s spirits appear to have been produced in this manner.

(b).—Methods involving the camera and dark slides :

1. A trick slide may be employed, in which the shutter contains a positive transparency of the desired extra, held in such a manner that it can either be withdrawn with the shutter, or left in position in front of the plate when required ; *i.e.*, during the exposure, which will have to be somewhat longer than usual.

2. A similar transparency may be inserted in the camera, close to the plate, and between it and the lens, during the focussing operations. The black focussing-cloth makes an admirable screen for such manipulations, while the sitter is of necessity immobilised a few feet from the camera. It is easy to imagine how a transparency on a spring mount could be slipped into the camera under cover of the cloth in such a way as to press up against the plate when the shutter of the slide is drawn.

3. It is stated that a doubly refracting lens has been used, focussing on to the same plate both the sitter and an object concealed at one side of the studio. Such a contrivance may have been employed, but would certainly not be cheap to manufacture.

¹ This method will probably be scoffed at by some enthusiasts, but it should be remembered that the simpler and more audacious methods are the most likely to succeed, just because they are so obvious that no one thinks of them. The sitter *must* keep still and *must* look at the camera for some seconds while the exposure is being made, and provided the accomplice is revealed by a carefully silenced mechanism the chances of detection are negligible.

4. A simpler method of obtaining the same result is to have a pinhole in the bellows of the camera ; a brightly illuminated object at the side and rather in front of the camera will then throw an image on the plate. A considerable exposure will be needed to give a fair extra ; but this will present no difficulties, as the pinhole will be open all the time the plate is in position, and not merely during the few seconds that the lens is uncapped for the photograph of the sitter.

5. An extra may be painted on the inner surface of the dark-slide shutter, in some radio-active chemical. The shutter usually only clears the surface of the sensitised emulsion by a fraction of a millimetre, and a fairly distinct extra will be produced if the plate is kept in the slide for a sufficient length of time—depending, of course, upon the amount of radio-active substance used.

(C).—Dark-room methods.

1. In the days of the wet-plate process, when plates were cleaned and used a second time with fresh emulsion, it would sometimes happen that the original photograph would re-develop on top of the second, very careful chemical cleaning of the plate being necessary to prevent this. Mumler's first spirit photograph was probably produced in this way, and the knowledge was turned to good account by several of the earlier spirit photographers. Some of the unexpected results obtained by amateurs may be attributable to this cause, because a certain number of used plates are returned to plate manufacturers, who clean off the emulsion and use the glass again. The cleansing may sometimes be imperfect, and in these cases the original image may appear on development.

2. Faces may be sketched in chemicals on small pieces of card, or even on the medium's fingers. On opportunity arising in the dark-room, the medium holds or steadies the plate for an instant, bringing the chemical pictures into contact with the plate. Or he may so manœuvre it that the plate is laid face down on a prepared surface of the dark-room work-bench, probably while it is being marked¹; upon development of the plate extras will duly appear. The most refined version of this method consists in the preparation of small rubber stamps in which the chemicals are smeared. These can easily be palmed and dabbed for a moment on the plate in a manner which appears quite unsuspecting. A number of active chemicals will produce this effect, but the medium must be careful to know whether the substance he is using will accelerate or retard development in the affected part ; for cases have occurred in which a positive extra has been produced on the negative plate, giving a negative spirit on the finished print !

3. Mr. Bush, in his recent pamphlet, "Spirit Photography Exposed,"

¹ *E.g.*, on the back with a diamond.

describes a piece of "apparatus made out of an empty blacking-tin containing a small electric bulb, one side of the tin being replaced by a positive transparency of the desired extra. This, he alleges, is used by Hope, the Crewe spirit photographer, the transparency being pressed against the plate and the light switched on for a second. If carefully faced with black velvet round the transparency, this device should be quite useful ; but it must be remembered that an escaping ray of white light would at once catch the eye in the dark-room. Skilful palming and manipulation should make it quite possible for an extra to be printed on the plate in this way, if the medium can cover it with his hand for a moment or two. All Hope's results are certainly not produced in this way, however, as is implied by Mr. Bush.

4. The medium may palm a positive transparency ; if he is allowed to handle the plate he will hold it close to the red lamp with the transparency between ; if the lamp is rather bright, or is not a very deep red, an impression is soon made on the plate.

5. With a pinhole in the dark-room lamp, and a transparency inside—a perfectly practicable arrangement with some of the more complicated dark-room "safe-lights,"—a pinhole projector can be formed, which will throw an image on a suitably-placed plate. Any leakage of white light into the dark-room, either from the lamp or from outside, can be used to produce blotches and streaks on the plate. A very little mechanical ingenuity will enable a medium who takes a pride in his work to rig up an arrangement of this kind which can be switched off and on at will and which will project an image on a predetermined spot on the bench. By the simple expedient of having the bench so cluttered up with bottles and miscellaneous rubbish that this spot is the only unencumbered one, the unsuspecting sitter may be forced to lay a plate on this spot while, for example, he is marking another. The medium may ostentatiously stand at the other end of the room and "switch on" for a moment while the sitter's attention is engaged with his marking.

6. Photographic plates are sensitive to rays invisible to the eye, as has been pointed out in considering the effect of fluorescent substances. X-rays and ultra-violet rays, for instance, both invisible yet strongly actinic, might be used in the most baffling manner in the production of spirit extras. The expense and technical difficulties would be considerable, but were any medium to take the method up, he might safely defy the most critical investigation and would soon recoup himself for the few pounds initial outlay.

There are undoubtedly many other methods used by mediums for this purpose ; but if the sitter who has obtained spirit extras under test conditions carefully considers the procedure employed, in the light of the suggestions made above, he will probably find that several loopholes were left by which fraud might have been introduced.

B.—Experiments in Fraud

The argument most frequently brought forward, in favour of the genuineness of spirit photographs, is that the conditions employed in their taking leave no loophole for fraud. It has been pointed out in the preceding section that the usual "test conditions" leave not one, but many, such loopholes. Evidence of fraud has at some time or other been brought against most spirit photograph mediums, and they have consequently been more or less discredited. Other mediums have been more clever—or more fortunate—and many people therefore argue that they are not all to be tarred with the same brush; it is pointed out that spirit extras *have* been obtained under the strictest conditions imposed by acute observers who have found nothing suspicious of trickery.

It occurred to me that the most effective way to refute this argument was actually to produce bogus spirit photographs under similar, or even more stringent, test conditions. This I accordingly attempted in a series of *séances*, held in my rooms at Cambridge in the summer of 1919. At four of these *séances* photographs were taken, and on each occasion one plate showed a more or less conventional spirit extra. As I was experimenting primarily for my own satisfaction, my seven victims were drawn from among my own friends, and were enjoined to keep the matter as quiet as possible. They were not, of course, specially trained psychic researchers, but could not, I think, be considered as being particularly easy men to deceive. Five of the seven were ex-Service men, and all were of B.A. or "fourth year" University status; they included two chemists, two medical students, a geologist, and two physiologists who were also studying psychology. They were all therefore of a scientific bent, and, with possibly one exception, were completely sceptical about spiritualistic phenomena when the experiments started.

I first suggested to four of them that we might try to obtain a spirit photograph, like those described and reproduced in recent magazine articles. They did not take me very seriously at first, but after we had obtained the right atmosphere with a little table-turning, they consented to try for a spirit photograph. When a spirit face duly developed in addition to the sitter, everyone present expressed amazement! I was naturally asked if I was "pulling their legs." I hedged and refused to say either yes or no, explaining that I wanted the experiments to continue under scientific conditions. If, on the one hand, I declared that I had not in any way faked the photograph, they would probably believe me, and would not insist on further photographs being taken under test conditions. If, on the other hand, I refused to give such an assurance, they would think that I was probably tricking them, and would take all possible steps to "bowl me out";

and when they failed to do so would thereby establish evidence of the genuineness of any further photographs we might be lucky enough to obtain. After some little demur they saw the point of this—or as much of it as I wished them to see—and agreed to meet again in my room on the following Sunday evening, promising that I should be given no opportunity of playing any tricks. It was also agreed that notes should be taken during the *séances* as far as possible, and that full reports of what occurred should be drawn up afterwards by all of us in conjunction, which everyone would sign.

I now quote their report on the next two meetings, omitting nothing except their names, which I have replaced by single letters, at their request.

“ On the following Sunday, July 20th, at 8.15, there met in Patrick’s rooms A, B, C, and D. Saturday being a Bank Holiday, the plates were purchased on Friday evening by B, and kept by him until the meeting. B produced his plates, unopened, and after some preliminary table-turning and rapping, more successful than at the previous meeting, it was decided to proceed with the photographs. A carried the plate-box unopened to the dark-room, and he and D sat closely on either side of Patrick, and watched him open the box and load two double dark-slides ; they were satisfied there was no substitution or trickery, or anything in the least degree suggestive of it. The wrapper of the box was broken in full view of both, and Patrick loaded the top four plates into two double dark-slides, which were examined by A and D immediately before they were loaded ; they did not leave their sight from the moment of examination until the photographs were taken. The camera was also subjected to careful and minute examination, especially by A, who removed the lens and examined both it and the interior of the camera. The lens was then replaced, and the focal plane shutter set in the open position, the exposures being made by the simple expedient of withdrawing the shutter of the dark-slide.

“ At the request of C, before approaching the camera to focus it, Patrick removed his coat, rolled up his sleeves, and was carefully searched by him.

“ It had been arranged that Patrick should take a photograph of each of the four others present, under identical conditions. The background was arranged, as before, of gowns hung over a cupboard, but was made more complete. The subjects occupied the same chair in succession ; of the others, one stood by the light switch, and the two others by the camera, to watch the photographer. Patrick attended both to the camera and the flash production. The exposures were made, as stated, by withdrawing the shutter of the dark-slide ; the focal plane shutter was not touched throughout. The electric

light was therefore switched off for a few seconds while the shutter was drawn and the flash being lighted. Sufficient light came through the white window-curtains (9.30 p.m. Summer Time) to enable those in the room plainly to see each other, and watch the photographer's movements. The four photographs were taken in rapid succession.

"The slides were taken back into the dark-room, and developed by A and Patrick in conjunction. B and C watched in turn, and D also watched part of the time. One of the plates was quickly observed to have an 'extra' developing on it. A bromide print was again taken from the wet negative, and showed on the photograph of D the head of an elderly man, besides a very fair photograph of the sitter. The extra face was above D's head, and to his right. The "spirit" was bearded, and partly bald, with a somewhat melancholy expression. There was a suggestion of a white collar. On the left of the face and somewhat above it was written in white on the black background what was apparently a signature, with two final letters of a preceding word. It was dubiously deciphered as '. . .ly S. Simmonds.' Neither face, name, nor writing were recognised by any one, either at the time or subsequently.

"The three other photographs were fair portraits, but showed no abnormality.

"A third meeting was held in the same place at 8.15 p.m. on Sunday, July 27th, when even more stringent conditions were imposed on the photographer.

"The plates were bought on Saturday evening by D; other men should have been present, but did not turn up at the arranged time. D took the plates to his own rooms, where Patrick sealed them for his own satisfaction. The box was kept locked up by D till he brought them to the meeting on Sunday, and he did not part with them till he gave them to E to take into the dark-room.

"At this meeting there were present A, B, C, D, E, F, and G, besides the photographer.

"When all had arrived, E carried the plates to the dark-room. C brought a dark-slide, which he had abstracted and kept since the previous meeting. Before going into the dark-room Patrick, again at the request of C and E, removed his coat, rolled up his sleeves, and was searched, C even going to the length of examining his socks for possible concealed plates or dark-slides.

"Patrick wished to load the slides himself, as they were rather delicate. Accordingly neither slide nor plates were passed into his hands until he was sitting in front of the ruby light, with E on one side of him and C and F on the other. He broke the seals, and in full view of these three loaded a single plate into compartment No. 3 of the dark-slide. This was then immediately taken from his hands

again by E, and he and C locked it in a drawer of the desk, upon which stood a reading-lamp, which was never extinguished throughout all the subsequent proceedings. C kept the key of the drawer, and passed it to E when the slide was required.

“Some table-tilting was then carried out by all except C, who remained at the desk and acted as secretary. The lights were all put out except the reading-lamp he used, which was, as stated, over the drawer where the dark-slide lay locked.

“After half an hour or so of moderate success with the table, E and Patrick also dropped out, to take a flashlight photograph of the group round the table. Patrick prepared the flash-powder, and set up the camera—which had previously been examined—by the side of the desk and lighted lamp. E again examined the camera, inside and out, and when Patrick had focussed it examined the view in the ground-glass screen. (The lights were put up for a few minutes, to aid the focussing, etc.) When all was ready, E received the key from C, unlocked the drawer, and took out the dark-slide. He saw that it was undoubtedly placed in the camera right way about, *i.e.*, No. 3 compartment in use, and the shutter withdrawn. When the table had commenced its tilting again the flash was fired by Patrick. C took notes of the movements of the table, and at the same time watched the camera, which was in the full light of the reading-lamp throughout. After the flash the shutter of the slide was replaced, and on removal from the camera the slide immediately passed again into the possession of E. Any substitution of plate or dark-slide was thus rendered out of the question.

“The dark-slide was taken to the dark-room by E, and he and C watched Patrick open it, remove the plate, and develop it. As before, E kept the slide till everything was ready, and passed it to Patrick in the full light of the ruby lamp, C checking the number of the compartment in which the plate had been loaded, and still remained (No. 3). On development, Patrick pointed out that there was a hand at the top of the plate, which could not belong to any of those at the table, and was pointing with its index finger at one of the group. On fixing, it was examined more closely, both by Patrick and the two others. All three distinctly saw the image of a hand and wrist, pointing, the forearm being draped. It was in fairly sharp focus, and appeared, by its proportion, to be rather nearer the camera than the centre of the table, above which it appeared to hang suspended. A shadow cast by it was plainly seen, larger and less sharply focussed, apparently on the back wall of the room. (A picture on this wall had previously been removed, to eliminate any reflection, and leave the background clear.) There was a general appearance of drapery surrounding the group, particularly at the sides; there was in this the suggestion of a trunk to which the hand might belong. The appearance of the picture

was very startling, and Patrick suggested that as the man at whom it should turn out to be pointing might suffer considerable uneasiness on seeing it, it might be well to destroy the plate without attempting to identify him. E and C, after a minute's thought, both agreed that this would be the wisest course, and it was accordingly done. Patrick did not wish to feel that he might be in any way responsible for causing anyone uneasiness or harm, such as might well result from such a picture.¹ Accordingly the three returned to the other room, and explained the situation to the others, who, though obviously disappointed, did not condemn the course taken.

"This concludes the account of these first three meetings. We wish to record that all through the meetings Patrick desired and requested us to take all and any precautions we thought fit, to satisfy ourselves that he introduced no trickery.

"In conclusion, we, the undersigned, declare this to be an accurate account of the occurrences to the best of each man's individual knowledge. While not committing ourselves to any statements as to our belief or disbelief in the genuineness of the phenomena observed, we maintain that the greatest possible care was taken to prevent any possibilities of trickery ; and we consider that, barring the possibility of Patrick having an accomplice among us, the evidence should be accepted as proof of the genuineness of the phenomena observed."

This is followed by their seven signatures. E added afterwards a paragraph of his own as to the interpretation of the word "accomplice." E was much the acutest observer and the most obstinate sceptic of the seven : I think he suspected D of being in some way my accomplice ; some of the others suspected him of being a medium. He certainly was not an accomplice—for I never had one in the room ; he may be a medium for aught I know—but I should doubt it.

At the next meeting an eighth investigator appeared, and everybody seemed to be suspecting everybody else, and not merely the photographer. The plates were bought at a different shop, chosen by lot, by a committee of four ; and the packet was at once done up with much red tape and green sealing-wax. When they had finished I requested to be allowed to put my seal on it too, to assure myself that *they* were not playing any tricks ! My request was granted. I now quote the report of the meeting :

"The box of plates was produced by C, and the seals were found to be intact. The box was taken into the dark-room by A, and a plate-

¹ This may have been true, but was certainly not the principal reason that I had to have the plate destroyed ! I had over-exposed my spirit, and I feared this plate would not bear closer inspection (I did not sign the minutes of the first three meetings).

carrier—which had been previously examined by several of those present—by B. The seals were broken, and a plate was loaded in the presence of A, B, D, and E, who signed their names on stamp-paper fixed to the back of the plate.

“In attempting to fit the slide into the camera, the plate was accidentally exposed. It was discarded, and another plate signed and loaded by A, C, E, and Patrick. C then locked the plate away in a drawer, and kept the key until the slide was required for the photograph.”

[Table-turning was then indulged in ; A, C, E, and myself not taking part. The usual type of answers was obtained from the table ; I omit this part of the report. During the table-tilting the photograph was taken under precisely the same conditions as at the last meeting.]

“The plate was developed by Patrick ; A, C, and E watching. An extra pair of eyes and the upper part of a nose developed, apparently on the wall ; they were brightly illuminated, from the same position as the other figures. They were larger than those of the other members of the group, and were over B’s head.

“We consider that this is a true account of what occurred. Barring any very abstruse and elaborate explanation, it would seem that the photograph is undoubtedly genuine.”

Then follow the signatures. As they made *me* sign the report on this meeting, I had to see that it was worded rather carefully, particularly the last paragraph ; the report *was* true, so far as it went ; and the explanation of the result *was* rather elaborate ; so I felt I could safely sign it.

I did not hold another photographic *séance*, but being emboldened by success, introduced at the next meeting “a medium from London.” (As a matter of fact he came from Trinity, but I had ascertained that nobody knew him, which was the important thing.) After suitable preliminaries we all sat round a large table in semi-darkness, holding hands. When the medium had arranged “the balance of the circle” to his liking, he proceeded to go into a trance, when queer things began to happen. A candlestick was seen to slide along the mantelpiece and crash into the coal-box, taking a framed photograph with it ; sounds were heard from a small cupboard ; the window-curtains were parted ; several people saw spirit forms and eyes ; and one was favoured with a spirit touch. The medium’s Egyptian control, Nemetra, gave us wonderful accounts of life in Memphis in the days of the Pharaohs—accounts which certainly made up in picturesque detail for anything they lacked in historical accuracy.

Unfortunately this meeting was not a complete success, as, immediately the show was over, our ever-curious geologist E began hunting about the floor, and discovered a small loop of fishing-line (being a post-war fishing-line, the spirit forces had broken it). He

could not very well announce his find at the time, as the medium was not yet roused from his trance, and the others were busy feeling his pulse, fanning him and administering cold water !

By this time the results of the photographic *séances* had become pretty generally known, and the undesired notoriety brought so many requests to allow other visitors at the *séances* that it became evident to me that the proceedings must terminate. So the next morning, after seeing E, I told him and the others that the whole thing had been a hoax, and that the photographs were frauds. I should like to add that with one exception they took it extraordinarily well, particularly when I explained what had been my object. They were still quite in the dark about *how* the photographs had been done, particularly when I told them that there was no accomplice among them.

All the photographs were obtained by the general method of double exposure and substitution, the substitution being effected at a different point on each occasion ; the methods used, or slight variations of them, are all described in the section on “ Methods of Fraud.”

Now I maintain that the conditions imposed upon me were as strict, or stricter, than any professional medium allows. If an amateur photographer but little practised in sleight-of-hand can under such conditions deceive intelligent observers—not once, but several times over—how much easier will it not be for the professional spirit photographer, who makes such frauds his business ?

C.—Internal Evidence of Fraud

Since spiritualists claim that the presence of invisible spirits may be detected by photography, it seems reasonable to inquire how far this is compatible with established physical facts. If a plate is wrapped in paper and submitted to “ spirit influences ”—whatever these may be—never being exposed in a camera at all, and on development shows faces or writing, I personally can only find one explanation—trickery. But if a plate is duly exposed with camera and lens, and unseen faces appear on development, the matter is not quite so simple. For it is well recognised that the camera may record what is invisible to the eye ; invisible stars are detected by the photographic plate, and anyone who has examined a nebula or comet through a telescope, after seeing a photograph of the same object, realises this fact to his disappointment. Similarly a can of hot water may be photographed, by a long exposure, in a perfectly dark room ; and another well-known instance of a similar phenomenon is Sir Robert Ball’s story of photographing some writing on the side of the “ Great Eastern,” years after it had been painted out and rendered invisible.

Light, as is well known, is now regarded as consisting of waves in the ether. Ether waves are known to exist over a very large range of

wave-lengths ; some are comparatively long waves, some are short. The properties of these waves depend upon their wave-length ; those visible to our eyes, which we call "light rays," form only a small section of the complete scale ; comparing them with sound waves they correspond to approximately one octave of the whole musical scale. Ether waves of greater or lesser wave-length than light, *i.e.*, of lower or higher octaves, have very different properties. Radiant heat and ultra-violet rays are the ether waves nearest in wave-length and properties to light ; X-rays and the waves responsible for wireless telegraphy appear to be similar waves further removed along the scale of wave-length.

Now in order to photograph an invisible object we require rays that (a) affect a photographic plate ; (b) are capable of refraction by a lens ; and (c) are invisible to the eye. The properties of the principal known rays concerned may be summarised as follows :

	<i>Effect on Plates</i>	<i>Refracted by Lenses</i>	<i>Visibility</i>
<i>Infra-red (heat) rays</i>	v. slight	Yes	No
<i>Light rays</i>	affected	Yes	Yes
<i>Ultra-violet rays</i>	strongly affected	Yes	No
<i>X-rays</i>	affected	No	No

It appears, then, that ultra-violet rays are suitable for our purpose ; infra-red rays, if present in an amount sufficient to affect a photographic plate, would make themselves very evident as heat, and may therefore be ruled out.

Ordinary daylight contains ultra-violet rays, as also does the light of the arc lamp and magnesium flash ; lamplight, gas-light, and the ordinary electric light, are comparatively deficient in them. But are we to assume that the spirit form is dependent on finding suitable rays in the surrounding ether, or can it produce its own ? Perhaps some spiritualist will tell me. This is a point of some practical importance in examining a reputed spirit photograph ; for if the spirit is self-luminous its features will be evenly illuminated and without shadows, nor will it cast a shadow on the sitter or background, but rather the reverse. If, on the other hand, the spirit is dependent on the presence of ultra-violet rays from other sources, which it can reflect, then the spirit in the photograph will appear to be illuminated from the same point as the sitter,¹ and by absorption or reflection of the ultra-violet actinic rays which would otherwise have passed on, will cast a shadow on the background. Being a shadow cast by the

¹ Unless, of course, there happens to be in the room a source of ultra-violet rays other than the ordinary illuminant by which the photograph is taken but which does not emit visible light rays. This possibility may be disregarded for practical purposes.

removal of the ultra-violet rays only, it will of course appear as such in the photograph, but be invisible to the eye.

So if a spirit photograph is to be classed as possibly genuine, the spirit may either appear self-luminous and cast no shadow, or may appear to be illuminated from the same point as the sitter, and cast a shadow on the background, if the latter be of a suitable nature to show it. But on examining a collection of spirit photographs taken by various professional mediums, we find that as often as not the spirit and sitter are lighted from opposite sides ; or that a spirit face with a well-marked shadow on one cheek throws no shadow on the background. If our reasoning be correct, we can at once write such productions down as frauds. The photographs I produced at my Cambridge *séances* show both these faults ; two of them have the spirits lighted from the opposite side to the sitter, and one has the spirit lighted from the correct side but throwing no shadow, whereas the sitters throw clear shadows on the wall behind. In the other photograph I managed to get both the lighting and the shadow of the spirit correct ; but in order to get the shadow I had to photograph the background with the " spirit " ; hence when the sitters were photographed on the same plate there was a double background, which necessitated a rapid destruction of the plate !

Of course the average medium does not consider these points at all ; his sitters are usually satisfied with anything they can get, so why should he worry ? But an intelligent observer examining a number of spirit photographs with regard to these points will quickly satisfy himself that the majority of them *can* only be frauds.¹

There are a number of other points by which a spirit photograph may betray its method of production without reference to the conditions under which it was taken. Many spirit extras are simply copies of existing photographs, which are usually camouflaged in some way. Draperies may be substituted for the hair, or the features slightly retouched. A common method is to reverse the original photograph, right for left ; a number of Hope's productions were recently published in a monthly magazine, and alongside them life portraits of the " spirits," the letterpress emphasising that, though undoubtedly the same face, they were different photographs. On examination with a mirror, however, the photographs were seen to be identical, and careful measurement of the faces showed the proportions to be exact. In the

¹ *Note*.—Some believers in spirit photography will dissent from this view on the ground that experiment has shown that when a photograph is taken the extra is not produced by the reflection of ultra-violet light from an " object " (partial materialisation or the like) but by the use of a " psychic transparency " applied to the plate and exposed to " spirit " light. With the first part of this we cordially agree, but the hypothesis of the " psychic transparency " seems to be no more than a resolute attempt to evade the plainest indications of fraud. *Vide infra*.—[ED., P.R.Q.]

photographs more recently published by Mr. Bush, who laid a trap for Hope into which the latter appears to have fallen, the spirit was not reversed, nor was even the rather peculiar attitude of the head in the original photograph altered. A little spirit drapery was added round the face, and the whole thrown slightly out of focus ; it is really a most clumsy piece of work, and should deceive no one.

In some spirit photographs produced by double exposure there is a double background, as occurred in my own photograph referred to above. There may be either two different backgrounds, or a double outline of the same background ; in either case the "spirit's background" is usually fainter than the "sitter's background," and shows through the darker parts of the sitter. Sometimes attempts are made to retouch these appearances on the negative, and many spirit photographs show clumsy brush or pencil work, which must immediately stamp them as frauds.

Attempts are sometimes made to obliterate other tell-tale marks, such as a piece of a spirit's hat or collar, which has accidentally got on to the plate. Other mediums, however, are less particular, especially in America, and produce their spirits with ordinary hats, collars and ties. But as a rule only spirit robes are permitted, apparently made of butter muslin not quite in focus. Hands are often present : I have seen a case in which the position of a spirit hand would have necessitated a many-jointed arm about four feet long ; but perhaps spirit arms *are* like this. One spirit extra I have seen has two hands, but both appear to be left hands—evidently a left-handed spirit.

Frequently, again, careful examination shows that spirit extras are not photographs at all, but resemble wash drawings. This gives the clue to their origin, for several of the methods described in a preceding section produce a result of this kind. It has been several times pointed out that spirit extras in some cases show the characteristic dots produced by the half-tone newspaper illustration process ; if the medium cannot obtain a real photograph of the required spirit, he has to copy a newspaper reproduction. If he is clever, he can eliminate these process marks by printing in his spirit slightly out of focus ; but very often he does not take the trouble.

In many, perhaps in the majority, of spirit photographs produced by professional or semi-professional mediums, a critical observer with practical photographic experience can point out some such definite evidence of fraudulent manipulation. In many other cases, where no one particular point can be singled out as indicative of fraud, minor points of suspicion are noticeable, which taken together leave little doubt of the nature of the picture. But photographs *can* be prepared by purely mechanical means, especially if no kind of test conditions are employed, which will contain no internal evidence whatever of manipulation. By carefully combining enlarged positives, for instance,

and re-photographing the whole, results can be produced which will defy the most critical examination. But such photographs are seldom produced, even when the medium is given practically a free hand.

IV.—SPIRIT PHOTOGRAPHS OBTAINED BY AMATEURS

(C. VINCENT PATRICK)

Probably most people have heard, but seldom at first hand, of unexpected ghosts appearing on plates or films exposed by amateur photographers. On the rare occasions when such accounts can be traced to their source, one usually finds that there is some simple and evident explanation. Streaks and splashes of light on the plates are comparatively common, and are usually the result of the camera, slides, or dark-room not being light-tight; very strange results are sometimes produced in this way. I was once puzzled by a photograph which showed an arch, like a rainbow, across the sky, when it was quite certain that there had been no rainbow in the sky when the photograph was taken. When the result was repeated a few days later, the camera quickly came under suspicion, and was found to have developed a minute pinhole in the bellows. This was sealed up, and the rainbow did not reappear. Many unexplained markings on plates are certainly caused in this or similar ways; but only under very favourable circumstances could an extra face on the plate be so produced. Sometimes unexpected results are caused by an accidental second exposure; but the nature of such a photograph will quickly be apparent. The use of old glass plates may sometimes be responsible for similar results, as has been already explained. But authenticated cases of the appearance of unseen faces in photographs taken in the absence of a professional medium, and which do not show an obvious explanation, are few and far between. The classical example is that of the Combermere photograph, which was published in the *Journal of the S.P.R.*, and aroused much discussion and criticism.

A Miss Corbet took a photograph of the library of Combermere Abbey, Cheshire, on December 5th, 1891. She was alone at the time, and left the camera during the exposure, as it was a long one. She kept a note-book with records of her photographs, which afterwards showed that an exposure of one hour had been given, namely from 2 to 3 p.m. Unfortunately she did not develop the photograph till eight months later, and was then amazed to find a figure occupying a chair in a prominent position in the photograph. The figure was faint and transparent, the legs being quite invisible; the features were not recognisable; but the presence of a head, shoulders and arm was fairly plain. Inquiries were made, and it was found that not only

was the chair in question the one Lord Combermere had been wont to occupy, but that he had died a few days before the photograph was taken, and was actually being buried some two miles from the Abbey at the hour at which the photograph was taken. The photograph was naturally shown to the dead nobleman's relatives, some of whom professed to recognise it as Lord Combermere. It was further pointed out that he had lost the use of his legs in an accident some three weeks before his death, and that the spirit figure was correspondingly legless !

The most important contribution to the discussion which followed was made by Sir William Barrett, who demonstrated that the result could be duplicated by taking a several minutes' exposure of a chair, in which someone was seated for a part of the time. The sitter would naturally not keep quite still ; hence the outlines would be blurred and the features indistinct. Sir William published a photograph which he had obtained in this way, reproducing the features of the Combermere photograph, even to the leglessness. He suggested that someone, possibly one of the four men-servants in the Abbey, had entered the library during the prolonged exposure. He had sat down in the chair for a minute or so, when, noticing the camera, he beat a retreat. The photograph showed double outlines to all the sharp edges, indicating that the camera had been moved slightly during the exposure, and suggesting that someone had entered the room and jarred it. As it was eight months after the event that the photograph was developed, it was impossible to ascertain whether anyone *did* actually so enter the room. In any case it was a remarkable coincidence, but there is no proof of it being anything more.

A somewhat similar case is recorded by Podmore. The photograph was being taken, this time, in a chapel. On development a faint face was seen framed in a panel. This was described as being the likeness of a friend of the photographer's who had recently died—"a handsome, melancholy lad of eighteen." Another critic thought that the face was that "of a woman of thirty" ; it must have been very indistinct. It may well have been caused in the same manner that was suggested for the Combermere photograph ; a visitor to the chapel standing in the field of the camera for some moments, probably not realising that an exposure was in progress.

Several accounts have been given by amateurs of seeing spirit faces develop, only to disappear again on fixing ; one such is published in Vol. VII. of the *J.S.P.R.* These are evidently of a subjective nature, the finished negative showing no evidence of any abnormality. If any reader of this article knows of any case where an "extra" has been obtained in the absence of a professional medium, and where the plate can be produced, I should be very grateful for particulars.

Experiments have on several occasions been made by amateurs, deliberately trying for spirit extras, and exposing scores of plates,

usually without success. The unsuccessful attempts of Russell, Beattie, Dr. Williams, and more recently Dr. Pierce, have already been alluded to. Experiments of rather a different nature have been carried out by a Frenchman, Dr. Baraduc. His most interesting—if somewhat gruesome—result was a series of photographs taken over the death-bed of his wife, at the time of, and for some hours after, death. The negatives showed globes of light floating over the bed, which gradually increased in size and brightness, and coalesced in the later photographs. The circumstances certainly seem to exclude fraud, and it is very difficult to understand how the progressive series of photographs could have been obtained by accidental means, such as a pinhole in the camera. His results are very interesting, but need repeating by other experimenters; in any case, they have absolutely nothing in common with the conventional spirit photographs which show faces and figures.

V.—THE FAIRY PHOTOGRAPHS

(C. VINCENT PATRICK)

The so-called “Fairy Photographs” recently published by Sir Arthur Conan Doyle and Mr. E. L. Gardner do not strictly come under the heading of “spirit photographs,” but may not inappropriately be considered here. We have no evidence of the conditions under which they were taken; as Sir Arthur explains, such “rare results must be obtained when and how they can.” We have therefore to learn what we can from an examination of the photographs, or of their reproductions. At first sight they look like genuine untouched photographs; their general appearance is excellent, and if frauds, they are certainly good ones. On examining them more carefully, however, a considerable number of points are found requiring explanation. Some of these have no doubt been noticed by different observers; the principal criticisms of the different photographs are these.

“*Iris and the Dancing Gnome*” shows some very strange lighting. Examining Iris’s hat, we find the strongest light is falling, probably through a gap in the trees, from above and a little to the right; the shadow behind her arm, and the lighting of the fingers, confirm this. The gnome stepping up on to Iris’s knee should therefore cast a shadow upon her white dress, below and to the left; but the photograph shows no trace of any such shadow. On the other hand, the gnome is lighted mainly from the *left*; this is plainly shown on the conical cap and the right upper arm. Apart from these discrepancies, which alone are quite sufficiently damning, several other grounds for suspicion are evident. The whole photograph is much too carefully arranged to be

the snapshot it is represented as being. The black legs of the gnome are contrasted against the white dress of the girl; the lighter body, face and wings are outlined against the shadows under the trees; the dark cap is brought with one edge against a wing, the better to show it up, while the other edge catches the light. A snapshot would indeed be fortunate in securing such an admirable arrangement! The same thing is very noticeable in the other three published photographs; the pictorial arrangement of the figures and background is much too good to be the result of chance, and suggests careful posing.

This gnome photograph was taken under the shade of trees, we are told, at four o'clock on a September afternoon which was not sunny; an exposure of $\frac{1}{50}$ th of a second was given on "Imperial Rapid" plates, using a "Midg" quarter-plate camera. With the largest stop in this camera an exposure of at least ten times that stated, *i.e.*, $\frac{1}{5}$ th of a second, would be needed to give a fair negative under these conditions; $\frac{1}{2}$ to 1 second would probably be more correct. The photograph in question certainly shows signs of under-exposure; but under the conditions stated one would expect little more than a silhouette of the white dress and of the sky showing through the trees. Something is evidently wrong here.

The gnome's proportions are certainly not human, as are the fairies' in the other photographs; he rather resembles the familiar "Brownie" of the Kodak advertisements. Though stepping up on to the girl's knee, he is noticeably looking away from her, and at the camera, which is very unnatural and likely to cause him a tumble! Criticism has been directed against the girl's hand, but this is quite a common photographic distortion of a hand held rather near the camera. In my copy, however, the elbow appears rather peculiar.

The other points, taken together, can leave no possible doubt that the photograph is a fake. It could have been produced by making a positive enlargement from the negative of Iris on one of the bromide papers specially prepared for working up. The gnome would then be sketched on this—he certainly resembles a sketch more than a photograph—and the whole would then be re-photographed on to a quarter-plate. No doubt an entirely satisfactory result would not be secured at the first attempt; in fact, Mr. Gardner tells us that "other photographs were attempted, but proved partial failures, and plates were not kept." Surely such extraordinary photographs, even if partial failures, would be kept—if they did not show something that was not intended! We have known plates to be destroyed on other similar occasions, and for similar reasons.

"*Alice and the Fairies*" is of a rather different nature. The lighting of the fairies is badly wrong; they are brightly illuminated from a point behind the camera, whereas Alice is less brightly illuminated, and from the left-hand side. Sir Arthur, in his article,

points out that this is accounted for by the "fairy psychoplasm" having a "faint luminosity of its own." To appear brighter than the sitter, photographed by $\frac{1}{50}$ th of a second exposure at three o'clock on a sunny July afternoon, the fairies would have to resemble in luminosity a battery of arc lights! The photograph appears to have been produced by pasting the "fairies" on to an enlargement of the original photograph of Alice, and then re-photographing the whole. The fairies could be obtained by taking posed photographs of children suitably dressed; these would then be carefully cut out from their backgrounds and pasted on to the original enlargement. The points of internal evidence on which this statement is based are as follows:

1. The very sharp (cut) outlines of all parts of the fairies. This is particularly noticeable in the outline of the dress and hair of the third fairy (counting from the left); compare this with the soft outline of Alice's hair, against a similar background.

2. The same fairy's forearm is much brighter than Alice's wrist, at the point where it crosses between it and the camera. Assuming that both were equally white, and lighted from the same source, the one further from the camera would normally photograph a little the lighter.

3. Fairies two and four appear to be photographs of the same model, the wings being exchanged for the pipe. Note the similarity of the attitude of the legs, and of the shape of the tail of drapery hanging down behind.

4. With the exception of one foot of each of these fairies, which appears somewhat unnaturally amputated, *every part of the fairy figures is in front of the sitter and background.* This applies to all four photographs, and is of the utmost importance; superimposing the fairies on the original photograph in the manner described must of course produce this effect.

5. One would have expected to see some blurring due to movement, in the fairies' wings and feet at any rate, with a $\frac{1}{50}$ th of a second exposure at a distance of four feet. None is visible in the reproduction.

The two more recently published photographs are very similar to "Alice and the Fairies," and the same general criticisms apply. "*Alice and the Leaping Fairy*" again shows the fairy illuminated from a point behind the camera, whereas Alice is illuminated from the right side. (Note that her right cheek, facing the camera, is in shadow.) Fairy shows no movement-blurring, and comparison with instantaneous photographs of jumpers shows the attitude to be most unusual. On tilting the photograph a little to the left, the fairy appears to have been posed kneeling on the left knee, the support being afterwards cut away, and the cut-out figure applied to the enlargement of Alice, in a slightly different vertical axis.

"*Iris and Fairy with Harebells*" shows similar features. Notice, again, the different lighting of fairy and Iris; the hard outline of fairy's hair, so unlike Iris's in the same print; and the careful way the fairy has been placed to secure a well-balanced picture—scarcely a random snapshot! The harebells seem too large in comparison with the hedge-leaves at the same distance from the camera. They may be the result of combining yet a third photograph; or the actual harebells may have been placed on the enlargement and re-photographed with it.

An artist to whom I have shown this photograph, together with the full-length photographs of "*Iris*" published with the earlier article in the *Strand Magazine*, is of opinion that the fairy has the same figure and features as Iris, and, in fact, may very well be a photograph of Iris herself, attired in a bathing dress and some butter muslin, and with the addition of wings! The photographs of Iris show a rather characteristic poise of the head, which is also seen in the fairy. This is only a suggestion, however; the photographs are too small for certain identification. In any case, the fairy figure is certainly of human proportions.

These photographs have attracted a good deal of attention, and seem to have been accepted as genuine in some quarters. No doubt much reliance has been placed on the statement of one experienced photographer, Mr. Snelling, that they show no evidence of manipulation, disregarding the adverse criticisms of several other photographers to whom they were shown. I consider that there is not the slightest doubt that they are fakes, simply on the internal evidence they provide, and I have endeavoured to explain the principal points on which this opinion is based.

VI.—THE RELIABILITY OF WITNESSES

(W. WHATELY SMITH)

The reliability of witnesses is a crucial question in the study of psychical phenomena and has for long been a bone of contention between spiritualists and their critics. If honesty, care, and intelligence alone sufficed to make a man's testimony reliable the whole range of spiritualistic phenomena, including spirit photography, might long ago have been taken as proved beyond all possibility of doubt. But this is very far from being the case, and although it is never pleasant to express flat disbelief of the accuracy of people's statements, the Psalmist's dictum that "all men are liars" should be graven on the heart of every psychical researcher, especially in the case of those who attempt to investigate "physical" phenomena.¹

¹ Readers should refer to Mr. E. J. Dingwall's interesting article on "Magic and Mediumship" in the January number of the *Psychic Research Quarterly*.

I do not propose to repeat the obvious platitudes about the ease with which conjurers can deceive their audiences, but I should like to emphasise the fact that such differences as exist between the circumstances in which conjurers and mediums work are uniformly in favour of the latter as regards the minor manipulations necessary for the production of photographic phenomena. (One is not, of course, concerned with elaborate "stage effects," but rather with small matters like the substitution of one plate for another or the distraction of the sitter's attention while the required extra is impressed upon the plate.) The conjurer's audience *knows* that it is a trick ; the medium's does not. Even the most hardened sceptic will probably have a lingering doubt in his mind as to whether there may not possibly be "something in it " after all. This is all to the medium's advantage, and it must be remembered that not only does he work for much of his time under lighting conditions which are peculiarly favourable to fraudulent manipulation, but also that the great majority of his sitters start with a considerable prepossession to the effect that they are encountering something inexplicable.

But these observations must, I suppose, have occurred to all who have considered such matters at all impartially, and however relevant they may be they will never by themselves prevail against what we call "the evidence of our senses." No amount of general considerations of this kind will deter the credulous from accepting the *prima facie* indications of a "successful " *séance*. The only hope of preserving the public from the depredations of these swindlers is to show that the "evidence of the senses " is not worth twopence unless backed by special knowledge of the relevant technique.

One would think that anyone who reads Mr. Patrick's admirable account of fraudulent methods and of his experiments in their application will feel chary of claiming that he has wholly eliminated the possibility of fraud from any photographic *séance* which he has attended. But there may be some who will still say : " No doubt these fraudulent methods can be and have been employed, no doubt many people would allow a medium to substitute plates under their very noses, or to touch them. But when *I* went to such-and-such a medium I am *certain* that the plates were never out of my possession, that he never had a chance of touching them . . ." and so forth.

Of course, some of the methods described by Mr. Patrick do not involve touching the plates at all. It would not be at all impossible for an artist in such work to allow a sitter to use his own plates, camera, slides, dishes, and chemicals in his own studio and dark-room, to load, unload, and develop the plates himself without their ever being touched by the " medium " and yet to produce a perfectly good extra.

But I will let that pass and confine myself to the question of whether the kind of positive statement outlined above is really worth anything

at all. This question was answered once and for all in the emphatic negative by the classical experiments of the late Mr. S. J. Davey in "Slate-writing," which are fully described in the *Proceedings of the Society for Psychical Research*, vols. iv. and viii.

These experiments are not nearly so widely known as they deserve to be, but it is not too much to say that no one who has not read, marked, learned, and inwardly digested them is competent so much as to begin to talk about the genuineness of spirit photography ; unless, of course, he happens to have acquired a knowledge of trick methods and the scope of deception by other means—such as Mr. Patrick adopted in his experimental work !

Very briefly, the story was as follows : Mr. Davey was an amateur conjurer of some skill who set himself to imitate by trickery the performances of Slade, Eglington, and other exponents of "slate-writing" phenomena. In this he succeeded to admiration—so much so that certain spiritualists characteristically insisted that he *must* be a very powerful "medium" ! He scrupulously denied himself the advantage of claiming his results as supernormal, but in spite of this found no difficulty in imposing on his sitters. The latter were encouraged to take every possible precaution against trickery and were instructed to write the most careful reports of what occurred.

A number of reports were thus obtained from men and women of unquestionable intelligence and acumen which, if they had been even approximately accurate, would have established the supernormality of Mr. Davey's phenomena beyond any peradventure. But comparison of their reports with the known and recorded procedure which actually took place showed the most astonishing discrepancies. Omissions and distortions of the first importance were abundant and the experiments proved to the hilt that, for phenomena of this kind, the reports of untrained witnesses are, in general, not worth the paper they are written on.

I wish that space permitted me to quote, in parallel columns, some of these Davey reports and some of those given by witnesses of photographic *séances* so that my readers could see how very similar the circumstances are.

But I must content myself with pointing out that whereas in the one case everything turned on whether the "medium" had any chance of substituting or tampering with *slates*, so in the other it is a matter of whether there has been any chance of substituting or tampering with *plates*. The reports of intelligent witnesses proved worthless in the one case, and it seems reasonable to suppose that they are no more valuable in the other.

So, to anyone who thinks that in the mouth of two or three witnesses the genuineness of spirit photographs shall be established, I would say, "Go home and invest a few shillings in the *Proceedings of the Society for*

Psychical Research, vols. iv. and viii.—it will be more profitable than the same amount laid out in photographic *séances*—and when you have carefully read their account of the Davey experiments in conjunction with Mr. Patrick's paper, see whether your confidence in spirit photographs is as strong as ever ! ”

I have drawn attention to these experiments of Mr. Davey elsewhere and I am sorry to be obliged to insist on their importance again. But until people learn that the reports of uninstructed observers—however acute in other respects—are utterly unreliable, the fraudulent medium will flourish and the unsuspecting public will be robbed and deceived.

VII.—THE VALUE OF RECOGNITION

(W. WHATELY SMITH)

Believers in spirit photographs generally consider that they are playing their trump card when they point out that thousands of “extras” have been definitely recognised by sitters as portraits of their deceased friends or relatives. But this card, impressive as it looks, will not really take the trick. If it could be shown (i.) that a given “extra” was *unmistakably* recognisable as a portrait of a deceased—or even of a living—person, and (ii.) that the medium concerned could not possibly have obtained a likeness of that person to work from, then we should be obliged to attach great weight to this factor, even if the conditions were not otherwise such as to exclude fraud. For such a result could not be fraudulently produced. But in spite of the perfectly honest assertions of many investigators, it seems very doubtful whether this state of affairs has ever been realised.

There are two ways in which evidence based on recognition may be defective.

First, the recognition may be perfectly well founded, but the “extra” may have been derived from an existing photograph of the deceased ; second, and more frequently, the recognition is illusory and exists only in the sitter's imagination.

As regards the first of these points, it should be remembered that most people are photographed at one time or another, some of them frequently, and that it is not very difficult to obtain a photograph of a given person if one goes about it in the right way. A spirit photographer with an extensive *clientèle* will find it well worth his while to take the necessary steps to secure photographs appropriate to at any rate his more regular sitters, from whom, in the course of a few *séances*, it will not be difficult to glean enough information to put him on the right track. It is, of course, particularly easy if they happen to be well-known people, photographs of whose relatives may have appeared

from time to time in the press. But although this method may sometimes be employed where circumstances lend themselves thereto, or when there is some reason which makes a first-rate "test" especially desirable, I do not think that it is responsible for more than a small percentage of the recognitions which are claimed.

By far the greater proportion appear to be due to the operation of subjective factors which lead the sitter to "recognise unmistakably" an extra which bears no more than a vague general resemblance to the person whom it is claimed to represent.

Recognition can scarcely be assessed objectively; it is essentially a subjective affair, and as such liable to all the distorting factors which affect every mental process.

If I had to summarise the whole of modern psychological doctrines in one line I should quote the popular saying, "The wish is father to the thought." The whole of our mental activity, our thoughts, actions, opinions, and dreams are moulded by wishes or innate tendencies of one kind or another. Often, of course, these conflict with one another; but that does not alter the principle involved.

I believe that the great majority of the recognitions of spirit photographs are determined either by the definite wish to find evidence of survival or by the vaguer desire to obtain "positive" results of some kind, for positive results are always pleasanter and more satisfactory than negative.

To attempt a full discussion of the psychological process of recognition in general would take us very far, but I think it may be conceded that it is based on some kind of a *comparison* between the object ("extra") actually perceived and a visual image of the person concerned which is evoked for the purpose. But visual images are very plastic, so to speak, as anyone who tries to visualise the face of a friend accurately will be able to verify for himself. The general impression may be clear enough, but details of proportion and the like are very elusive. We all know, too, how faces get distorted in dreams (though by somewhat different causes from those which we are considering here), and it may well be that it is for reasons of this kind that recognition is so often unreliable even in ordinary life. Which of us has not been struck by the likeness of a press photograph to someone whom we know, or who has not been momentarily misled by the slight resemblance of a passer-by to his contemporary innamorata? In my judgment it is entirely in conformity with modern psychological views, or, indeed, a necessary consequence of them, to suppose that the process of recognition is as subject to the influence of emotional wish-tendencies as are all the other mental processes which have been studied.

This supposition is immensely strengthened by a consideration of the actual material dealt with. I have seen a good many spirit

photographs, and I am sure that those who have seen more will agree with me that the number which are clear enough to be *capable of definite recognition at all* is extremely small. They are almost invariably blurred, out-of-focus, indistinct things, frequently so covered in "spirit drapery" as to leave no more than two eyes, a nose and a mouth visible, while the shape of the head and the hair are quite indistinguishable. In the great majority of cases it seems to the unbiassed observer nothing short of absurd to claim that such vague and indefinite effigies can be "unmistakably" recognised. And when it comes to recognition being instantly claimed *from the negative* and before a print is made—as in a case I heard of not long ago—one almost gives up hope!

One need hardly point out that, although a medium who merely trusts to luck will probably score a good proportion of "hits" by ringing the changes on a few common types of face, he can greatly increase this proportion by a little adroit "pumping" of the sitter which will give him a guide to at least the general type of face expected, thus enabling him to "deliver the goods," at any rate approximately, at the next *séance*.

It should also be remembered that in everyday life recognition is a much more sketchy affair than might at first be suspected. Experiments have shown that in reading, or in viewing a drawing, we do not take cognizance of each individual element; on the contrary our attention flits, so to speak, from point to point, skipping altogether the intervening matter. We thus obtain an outline or skeleton impression which we fill up from our own resources. We actually notice a few salient features and interpolate the rest; hence, for example, the well-known difficulty of "spotting" mis-prints in proofs. This process is perfectly satisfactory for ordinary purposes such as reading, and seldom results in our misinterpreting the symbols before us, and when it does the context usually puts us right. But in dealing with spirit photographs the context, if there can properly be said to be any, is much more likely to put us wrong. The "salient features" which "leap to the eyes" are, in this case, those which suffice to locate a face as belonging to a certain general type, while the details which we fill up for ourselves are just those which are necessary for the identification of a particular individual. Consequently, false recognition is easy provided the general type is all right. The "beauty" is emphatically "in the eye of the beholder." As "M.A. (Oxon)," a famous spiritualist and a believer in spirit photographs, well said:

"Some people would recognise anything. A broom and a sheet are quite enough to make up a grandmother for some wild enthusiasts who go with the figure in their eye and see what they wish to see. . . . I have had pictures that might be anything in this or any other world sent to me, and gravely claimed as recognised portraits; palpable old women authenticated as 'my spirit brother, dead seventeen years, as he would have been if he had . . .' etc."

But, as usual, the empirical test of experience is the best. Considerations such as those outlined above may be valuable in establishing *a priori* probabilities, but it is far more important to ascertain whether *as a matter of fact* people actually do make false recognitions with any frequency. The answer to this has already been given by Mr. Patrick in his account of the Buguet case above.¹ The most striking feature of the case, as he rightly points out, was the way in which witnesses swore to having “unmistakably recognised” the extras they obtained, *and stuck to their recognitions in spite of Buguet’s own confession of fraud and his description of the methods employed.* In the face of this sort of thing, who will be bold enough to maintain that the recognition factor can be assigned any appreciable weight ?

VIII.—RECENT LITERATURE

(W. WHATELY SMITH)

Recent contributions to the literature of spirit photography are not very numerous. I may first mention the very thorough exposure by Dr. Walter Prince of the Keeler-Lee-Bocock photographs ; this appeared in the *Proceedings* of the American Society for Psychical Research, vol. xiii., part II, March, 1920. Keeler is a photographic medium who has practised in the United States for a number of years. For the benefit of Mrs. Lee he produced, at a price, a long series of “spirit” photographs purporting to represent the deceased Mr. Bocock in a variety of situations. Test conditions were either wholly absent or absurdly inadequate, and the photographs are, on internal evidence alone, so palpably fraudulent that it is surprising that they were ever accepted at all. The most obvious indication of fraud is the fact that through a whole long series of photographs Mr. Bocock’s facial angle remains the same and identical with that of one of the only two extant photographs of him, no matter what his posture may be or on what occupation he may be represented as engaged. This circumstance clearly points to the use of a single photograph of Mr. Bocock as the basis of all the fakes. The case is not of sufficient importance to be worth discussing at length, but it is an interesting example of the art of critically studying internal evidence and of the almost incredible effrontery of fraudulent mediums.

More important is Mr. Edward Bush’s “Spirit Photography Exposed,” a small pamphlet published by the author as a contribution to the “Nehushtan Crusade.” The object of the latter movement, of which one gathers that Mr. Bush is the leading spirit, is to show that all the physical phenomena of Spiritualism are fraudulent and to

¹ Cf. pp. 11-12.

expose dishonest mediums. This last object, at least, is admirable, and Mr. Bush is certainly entitled to consider himself "one up" on Hope in the matter of spirit photographs.

Briefly, Mr. Bush laid a trap for Hope by writing to the latter under an assumed name and enclosing a photograph of a living person which he represented as that of his deceased son. Hope returned the photograph and gave Mr. Bush an appointment for a *séance*, which he attended, still under his assumed name (Wood). He duly received an "extra" in the form of the face portrayed in the photograph which he had sent,¹ together with a "psychograph" beginning "Dear friend Wood"! Any reasonable person will say that Mr. Bush has proved his case, that he laid a trap for Hope and that Hope fell into it as completely as possible. But an apologetic will doubtless be forthcoming from those to whom Hope's integrity is a cardinal article of faith.

Mr. Bush appears, I may add, to be almost wholly ignorant of fraudulent methods, but he has successfully made good his deficiency in this case by the exercise of a little diplomacy.

Finally, I must touch on certain articles which have recently appeared in the well-known spiritualist paper, *Light*. It is with considerable reluctance that I do so, partly because the candid expression of my opinion cannot fail to bring me into sharp conflict with a number of people whom I respect and with whom I would much prefer to remain in harmony, and partly because exigencies of space compel me to adopt a brief and almost dogmatic mode of treatment which is likely to provoke accusations of superficiality and prejudice. To thrash the matter out thoroughly would necessitate an interminable discussion to which circumstances do not lend themselves and which would certainly be fruitless.

For there is an attitude of resolute credulity which is quite proof against reason. I do not for a moment suggest that spiritualists enjoy a monopoly of this quality; they do not, for it is equally to be found in other quarters, among materialistic scientists and party politicians, for example, who constantly ignore the plain implications of evidence if the latter happens to conflict with their cherished beliefs.

But however hopeless the task may be, it seems none the less to be a duty to protest from time to time against this state of mind, of which several striking examples are to be found in the articles in question.

The conviction of the genuineness of spirit photographs is a conviction which is founded on purely negative evidence (namely, that

¹ Note.—This is a case where recognition is possible because (a) the "extra" and the original portrait can be laid side by side and directly compared, (b) careful measurements can be made of the facial angle and other characteristics, and (c) independent witnesses in any desired number can make the comparison for themselves.

on very many occasions no fraud has been actually discovered), and held in the face of definite positive evidence (namely, the occasional actual discovery of fraud, as by Mr. Bush). But once formed it seems impossible to shake it, and just as always happens when emotion rather than reason is responsible for an opinion, every adverse indication is distorted into an additional corroboration. Just as a lover distorts the faults of his mistress into virtues—frivolity being regarded as gaiety, dulness as profundity and intransigence as strength of mind—so the plain indications of fraud which leap to the eyes of the unbiassed student are gravely put forward as evidence of the wonderful ways in which the spirits work.

Thus in *Light* for January 29th I find advanced as “most evidential” the fact that whereas a plate which had been in the possession of the medium for several days showed an “extra,” others, simultaneously exposed, which had *not* been in her possession, did not. (Note.—I am well aware that the plates sent to the medium for “impregnation by the psychic influence” were in a sealed packet which was certified intact when returned. But as anyone who has studied the subject of sealing knows, it is extremely difficult to devise a really fraud-proof method. Certainly no ordinary arrangement of strings and knots is reliable.)¹ Mr. Barlow, who writes the article, correctly argues that this result indicates that the lens of the camera used “had nothing to do with the formation of the psychic images which appear to have been printed on the photographic plate.” But instead of drawing the obvious conclusion that, in spite of the sealing, the plate which showed the “extra” had been tampered with, he adopts the view that a “psychic transparency” is used, that this is at some period applied to the sensitised surface of the plate by spirit agency and exposed to spirit light! Comment is needless.

This theory of the psychic transparency is very popular just now and is being freely invoked to account for the obvious indications of fraud which even a superficial study of spirit photographs reveals. It is expounded at some length by the Rev. Chas. L. Tweedale (*Light*, January 22nd, 1921), who carefully describes the various indications which show clearly that the extra is often produced by a transparency of *some* kind, in terms which could be used almost without alteration as proof of the fraudulent nature of the productions. Thus the edges of the “psychic” transparency are said to be clearly visible on many of Hope’s negatives, and we are told that “in some cases when ‘the cotton-wool effect’ is introduced, this ring of nebulous whiteness probably forms the edge of the transparency and . . . may conceal its use.” Most astonishing of all, perhaps, is this author’s credulity in accepting as genuine a spirit photograph showing two portraits of

1 Similar observations apply to “The Hunter Test” (*Light*, Feb. 19th.)

the late Mr. Stead of which one was an exact duplicate of the other, but larger, and clearly showed the "screen effect" of small dots which one can observe in any printed reproduction of a photograph.¹

Certainly there is ample evidence to show that some kind of transparency is frequently used in the production of extras (*Cf.* p. 18 above), especially by Hope, but there seems no reason to suppose that it is in any way "psychic." On the contrary, a friend of mine who enjoyed the privilege of a sitting with this artist not long ago tells me that when he went to focus the camera (as one is frequently invited to do), he clearly saw a wholly gratuitous face already projected on the ground-glass! Now either there was some kind of an objective apparition present in the camera's field of view which reflected light which only became visible after passing through the lens (which is absurd), or there was a transparency of some kind between the lens and the ground-glass. Of course it *may* have been a psychic transparency born before its time—one cannot possibly say definitely that it was not, but the more mundane inference seems very much the more probable. In fact, all this talk of The Problems of Psychic Photography is no more than an orgy of hypothetising from a mass of utterly unreliable data.

If only believers in spirit photographs would take the trouble to learn a little more about fraud and tighten up their control accordingly, instead of inventing strange hypotheses to bolster up their imperfect observations, we should hear less of photographic mediums and fewer people would be duped in this deplorable fashion.

IX.—REAL TEST CONDITIONS

(W. WHATELY SMITH)

To the last sentence of the preceding section someone will probably retort, "If only critics would stop talking about fraud and examine the phenomena at first hand, they would be convinced and we should have a chance of getting on with the war and finding out all sorts of interesting things." It is not really a fair retort, because it is always perfectly legitimate to point out sources of error in any experimental work without being called upon to repeat the faulty experiments oneself. But although all the evidence seems to me to point one way, I freely admit that I may be wrong and that genuine spirit photographs may be produced. If so, I should very much like to be able to convince myself of the fact and to give the utmost publicity in my power to any positive results I might obtain. But it is no use my attempting to do so under the conditions which normally obtain at a

¹ *Cf.* p. 30 above

photographic *séance*. I know, to be sure, a certain amount about fraudulent methods, and might, perhaps, be not quite so easy a prey as others who know less. But I am not so conceited as to flatter myself for a moment that I am a match for a really competent trickster. I know just enough to realise how very great an advantage the latter always has and how hopeless it is for any but the very elect to pit themselves against him. I do not imagine, as apparently do many worthy spiritualists who do not even know the first word about fraud, that my not extraordinary powers of observation are a match for the adroit and experienced medium, and I would no more back myself to spot fraud every time it was tried than I would back myself to win money off a cardsharper !

If one were allowed *real* test conditions, it would be quite another matter. But one is not. One is allowed to watch—when one's attention is not distracted by some natural-seeming incident ; one is allowed to perform for oneself all kinds of operations which are quite irrelevant to the *modus operandi* of the trick ; one is allowed to bring, if not always to use, one's own plates. But as already pointed out, the loopholes left for fraud are so numerous that it is vain to hope to guard against them all. In fact, the most suspicious feature about the whole of psychic photography is the fact that a procedure is insisted on which *must* give these innumerable loopholes and the obvious "safe" procedure is never, so far as I know, allowed at all.

If the account of fraudulent methods given above is referred to again, it will be seen that of the twenty-two varieties there noted, no less than eighteen depend on either (a) the use of the medium's faked camera or slides, or (b) the fact that the plates are loaded into slides, the slides placed in the camera, the plates removed from the slides and also developed "on the premises." The only methods to which this does not apply are the first of all and those involving preparation of the studio or dark-room and noted in Group II., Section A, to which might possibly be added the X-ray method. These three last can easily be eliminated by working in one's own or a "neutral" studio, while the former eighteen could all be prevented by using the investigator's own magazine or roll-film camera, loading it before the *séance*, taking it away immediately afterwards, and developing the plates in private without the medium.

I may very well be wrong, there may very well be methods which I do not know and cannot imagine which would get round even this degree of control, but I am inclined to think that this procedure would be "fraud-proof." Nothing less rigorous can be so, at any rate for a single-handed investigator, and even if several were present no confidence could be felt in the results unless (a) they were well versed in fraud, (b) they had planned and rehearsed everything in advance, (c) the medium were completely docile and willing to keep right away from

the plates at the critical moments, and (d) the studio were known to be unprepared.

I shall probably be told that the conditions mentioned above as being apparently fraud-proof would automatically inhibit the phenomena as would insistence on full light in the case of telekinesis. I am well aware that many attempts to lay down test conditions in the past have rightly met with this retort ; but apart from the fact that *if* the phenomena are such that real test conditions can never be applied then their genuineness can obviously never be established, I honestly cannot see that there is any essential difference between the conditions I suggest and those under which photographic phenomena *ostensibly* take place.

If and when these simple conditions are allowed (the plates being bought, of course, under circumstances which prevent collaboration by the vendor), I shall be prepared to admit that the scent is getting warm and that there may be something in spirit photographs after all. Until then I must reluctantly maintain my view that they are the most obviously fraudulent of all spiritualistic phenomena.

In conclusion we must confess that we have little hope of influencing convinced believers by the preceding discussion. It is just possible that here and there someone may realise that there is more scope for trickery than there appeared to be at first sight, may scrutinise procedure more carefully, may have the courage to distrust his own powers of observation, may even—if he is lucky—catch a swindler out. But this is unlikely. “Once convinced always convinced” seems to be the rule. “What matter if all appearances and all reasoning are against our beliefs ? Did not Satan put marine fossils on the tops of hills to shake our faith in Genesis ? Did not stupid spirits carelessly leave false beards and dirty muslin in the pockets of Williams and Rita—those wonderful materialising mediums ? Do not even the greatest psychics resort to fraud when the Power fails ? ”

No ! Some people’s faith could never be shaken, not though we gave them two hundred methods of fraud instead of twenty and not though a medium were exposed a hundred times instead of but twice or thrice.

But it may be that there are some who still have doubts and still halt between two opinions. We hope that to these this paper may be of some service as a contribution to the evidence available for their study. It is also possible that it may in some measure act as an antidote to the unreliable matter which is now so freely disseminated and which does so much to bring Psychical Research and the better aspects of Spiritualism into undeserved disrepute.

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