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# THE PSYCHICAL IMPORT OF VARIABLE ACHROMATOPSIA; AN ORIGINAL RESEARCH.

BY JOHN EDWARD PURDON, A. B., M. D., CULLMAN,
Junior Counsellor of the Medical Association of the State of Alabama.

[Re-printed from the Transactions of 1892.]

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## ERRATA.

Page 2, ninth line from top, *truth* should be *trust*.
Page 2, ninth line from bottom, *sensitivities* should be *sensitives*.
Page 5, sixth line from top, *past* should be *fresh*.
Page 9, fourth line from top, *light* should be *lights*.
Page 9, sixth line from top, *simple* should be *single*.
Page 9, fifteenth line from bottom, *axis* should be *axes*.
Page 12, sixth line from bottom, *vibatory* should be *vibratory*.

# THE PSYCHICAL IMPORT OF VARIABLE ACHROMATOPSIA; AN ORIGINAL RESEARCH.

BY JOHN EDWARD PURDON, A. B., M. D., CULLMAN,

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The title of my paper is rather a formidable one, but shorn of technical language it is a condensed expression for the implication that there exist certain cases of functional nervous disturbance in which variability of the color sensibility is a prominent feature, and that such variation is accompanied by changed mental and physical conditions.

Color blindness proper, a congenital affection, does not directly enter into the consideration of this class of derangements since the color vision in all my cases was at times perfect. Indeed the sharpness of this function was the inlet by which alone I could test the nature of the changes that occurred from time to time in the persons under observation.

The name of Mr. William Crookes, F. R. S., the celebrated chemist, is well known to you all, and his experiments in the line of psychical and spiritualistic research are some of the most accurate on record. The persons named in this paper as furnishing valuable physiological data were some of those with whom he made his most widely published and most startling observations. I have in my possession a photograph, prepared by Mr. Crookes himself, in which he appears with a duplication of one of the sisters of the family I am about to describe, leaning upon his arm, his own account going to show that her natural body was at the same instant lying in a state of trance behind the curtain, before which he was standing, with her double leaning on his arm. I do not here offer any explana-

tion of the *modus operandi* by which this ethereal body was produced, that being beside our present purpose; but I do offer what I regard as of much more importance to us as physiologists, namely, accurate notes taken regarding the state of that most complex but most directly presented sensorial function, vision, under circumstances directly parallel to those holding when Mr. Crookes obtained his physical data from members of the same family. No one who is inclined to place even a very small amount of truth in me as an observer will feel justified in ignoring the value of these case notes. If these are of no more value than to show that apparently simple sensorial entities are in reality very complex, being constructed out of simpler elements of feeling and so liable to disturbance, on account of the different possibilities of arrangement of such elements in time, number and order, the research is of a certain value from an educational point of view. As a practical matter the inquiry is also useful, for it tends to show that nnder conditions of nervous disturbance and specific excitement the natural signs and landmarks of objective nature are interfered with. The research shows that the colors so familiar and so fixed may vanish for the time being without interference with the general consciousness or decadence of the intellectual powers, to be restored after a time to their full recognition as permanent elements of healthy sensation.

But it is as a first step into the mysterious region of the unknown, between which and us the sensorial barriers become broken down, on occasions, that I attach value to such an inquiry. In a word, the ladies whose sensorial disturbances I record in this paper were what are called mediums or pyschic sensitivities, who have been repeatedly certified to as producing the most genuine and startling manipulations of an unknown power by Alfred Russell Wallace the great evolutionist, William Crookes the celebrated chemist and physicist, and many others distinguished in art, literature and science. Anything of a physiological nature, out of the common, during and after such manipulations must be worth recording, and I hope will be my excuse for venturing to present you with a subject so far out of the beaten track.

During the last three years I have been bringing before the profession, through two of the leading medical societies of the south, certain physiological and physical matters which I believe to be calculated to throw light upon that mysterious department of psychology which goes under the name of "Psychical Research." On the present occasion I have selected the subject of variable color vision as being one which was urged upon my attention from the fact that I found its most marked indication in the members of a family well known to students of the occult, and who, some fifteen to twenty years ago, were regarded as some of the best mediums in England for the manifestation of the mysterious psychic force which has been the great puzzle and paradox of this generation.

In the middle of the year 1871, I commenced the practical study of psychic science, and some months after I had my attention called to peculiar periodical variations of visual functions in the case of a young lady sensitive with whom I was experimenting. I perceived that she suffered from what I afterwards found was described by Charcot as the hysterical eye, or, at any rate, that her case was related to the latter. For the greater part of each month she suffered from weakness of one eye with loss of accommodation and imperfection of color vision, which, however, were both corrected by a seven or eight inch minus glass. She also perceived black bands or rings drawn on paper to be thickened and doubled in a certain uniform way, when observed through the uncorrected eye, although the sight of the other eye was very good. As this young lady was at that time becoming famous as a medium, I eagerly embraced every opportunity that offered to study such cases as hers, in the hope of finding some clue to the nature of the changes that take place in the cerebral machinery whenever there were present manifestations indicative of the activity of psychic force. I noticed that at a certain time each month both the power to manifest the special psychic activity and the abnormal vision disappeared together, leaving the inference to be drawn that abnormal color and ray vision and the psychic potentiality co-existed in her case, and

most probably were related in consequence of a strained condition of certain parts of the brain to be determined by other observations.

Further experience tended to confirm this view, for I found, in the case of this young lady, during actual manifestation of great psychic power, a total disorganization of distinct color perception and discrimination, while the evidence of brain strain and congestion was furnished by profuse nose bleeding coming on during the actual exercise of the psychic power. My attention having been turned in this direction, I found several instances of analogous color vision disturbance in patients of mine who were haunted by subjective spectral figures, not dependent upon drink, opium or similar exciting causes. I think I may safely say that in all these cases the cardiac innervation was imperfect—a sign of the general condition of the nervous system.

Some years after I first noticed the above relations, I had good opportunities of studying the vision peculiarities of two sisters of the first mentioned medium, both bright and intelligent young women who did their best to assist me in my research. The elder of these sisters, Miss K. C., was affected in the left eye, generally corrected by a minus glass as in the case of her eldest sister. The younger sister, Miss E. C., was affected in the right eye, generally corrected by a plus glass. This interesting contrast was verified again and again. Their ages were 24 and 18 years.

In my examination of these girls I used Holmgreen's wools, and colored glasses of many shades, and the colors were obtained by passing polarized light through doubly refracting crystals, the latter being very convenient for the study of complementary colors and the variations occurring in the perception of the same.

In submitting the following notes, I wish them to be regarded as an account of qualitative experiments made under conditions quite unfavorable to quantitative, and, more properly speaking, scientific observations. I can at any rate vouch for them as representing the facts and as fully supporting my

trust in the value of similar experiences with other persons of the mediumistic or sensitive temperament. I can positively say that I have never perceived a gross contradiction corresponding with an attempt to deceive. Order in disorder, for the time being, is what I have observed. Any new departure, corresponding to some past peculiarity of the sensitive organization, had only to be followed up to be identified as a member of a class.

April 29th, 1883, Miss K. C., a wonderful medium for all kinds of physical manifestations, was examined with the double image prism previous to sèance. She could see with the left eye but one image of a pencil mark ring on white paper, that one which was most refracted. She placed the point of a pencil a good way outside the circumference of the circle when asked to put it exactly in the centre. As the paper was moved the ring was unstable in its position. The prism showed two rings in the ordinary manner to the right eye. After the sèance she could not see at all with the left eye. The right eye remained unaffected.

Miss E. C., before the sèance, saw the two images through the double image prism, but much separated from each other. She also remarked, when she looked at the ground glass globe of the gas lamp, that one of the images, that which was most refracted, showed broad colored bands taking up nearly the whole of the outline, in place of the normal mere edging of color.

May 2.—Miss K. C. could see only one image through the double image prism held to the left eye. When that eye was supplied with a seven inch minus glass she saw both images quite well. An experiment was then made with plates of of selenite between two Nicol's prisms. The color of the purple and greenish yellow selenite were called blue and yellow, but when the true blue and yellow selenite was placed between the two Nicol's prisms the colors were not recognized at all. Thus it appears that red and green, which were components of the purple and greenish yellow, were unperceived in the first pair of colors, while the blue and yellow, the *in-*

*ferred* perception after such abstraction, were not perceived when *directly* presented in the second pair of selenite colors. After the sèance, which was a very good one, the medium could not see with the left eye; the correcting concave glass, which was useful before the sèance, having, after it was over, no effect in restoring her sight. The circulation, judging from the radial pulse, was weaker on the left side than on the right after the sèance and neither ring could be seen through the double image prism.

Miss E. C. was examined before the sèance with the double image prism and also with the selenite plates. She saw the two images correctly, and also the colors, but afterwards though she could see the two images through the prism she had lost all sensibility for color on the affected side. Both the young ladies were examined with the colored wools after the sèance; they had lost all power of distinction.

A careful observer called my attention to a circumstance she had noticed and which had a bearing upon the variation of color perception in the case of Miss K. C. On the fourth of May, after walking through town and feeling tired, she was affected with transient right hemianopsia; that is, she saw with the left half of each retina, the other half being but little responsive to the stimulus of light, or rather the visualizing centers in connection therewith. But the dark half-field proved on trial to be more marked for the right eye than for the left. When looking at a face she saw only the half of it, but she could see distinctly the whole of a bright gas flame. With the left eye she could see a shaded half face, the other half being distinct, while with the right eye she could see only the half face, the other half being perfectly blank. When examined with the purple and yellowish green selenite, placed between two Nicol's prisms, the left eye saw the colors correctly, but to the right eye the red-violet or purple was reduced to blue and the greenish-yellow to yellow; that is to say, the red was cut out in the one case and the green in the other. Shortly after the examination, while moving about, she got a headache across the eyes, when on trial the hemianopsia had

disappeared and the colors were the same exactly to the two eyes.

This lady at times, when similarly exposed to the sun and to fatigue, had become temporarily aphasic, evidently on account of irregular circulation in the cerebral cortex. Physiologically speaking, her case was in many respects an exact parallel to those of the psychic mediums here described, and, therefore, calculated to throw some light upon them.

May 6.—Miss K. C. was examined in good light before the sèance. She had remarked while out walking with me that red and yellow tulips appeared to her as "gray." Examined with the colored wools—red, dark red, blue, dark blue, light blue, yellow and blue-green were all called "gray." A seven inch minus glass corrected the achromatopsia completely. When using the double image prism she saw but one ring with the left eye, but with the minus glass added she saw both rings. When a beam of polarized light from a Nicol's prism was passed through plates of selenite and the double image prism added to complete the combination, she saw the double beam in complementary colors with the right eye, its normal appearance, but to the left eye it showed as a single colorless beam. This was true for the blue-yellow selenite, and also for the red-green, or, more properly, blue-red and yellow-green; a single colorless image was in all cases perceived. When, however, the left eye was armed with the seven inch minus or concave glass, the vision of the left eye was exactly the same as the right. After the sèance (and I may remark that all the sèances here referred to were satisfactory in the way of manifestations of extraordinary activity), she could not see at all with the left eye; neither color nor ray vision remained. The glass so marked before in its effect did not restore the color of the wools, which were all described as "grays."

Miss E. C. was examined the same day. She called the green, blue and yellow wools "gray." Dark blue was called very dark gray. The cherry red and dark red she called "dark red" and "very dark red." With the double image prism both eyes behaved alike, vision being normal. A check

experiment was then tried. On overlapping one of the images of a piece of green glass, looked at through the double image prism, on one of those of a piece of red glass placed near it, both being held up against the light, she did not perceive the change that under ordinary circumstances is due to the superposition of lights of different colors, she simply experienced the sensation of redness, the green being entirely absent from her apperception. The images of blue and yellow glass overlapped as "gray" without any change being noticed. The eye was then reinforced by a strong convex glass, and she saw all the colored objects when brought to a distance of four inches from the eye—the green required to be brought nearest. Outside of that distance the red alone was seen as a diffused light red. When tried with the selenite plates she saw the red-violet and yellowish-green as violet and yellow, using her sound left eye, but with the right eye, that which was the peculiar one, she saw only the red or red-purple shade, the yellowish-green complementary being entirely absent.

This young lady was examined after the sèance, during which she was for a short time "entranced." It was found that she had lost all color sensation on the left side. The double image prism showed double images without color; the wools were all "gray" to the left eye. She remarked that the double images of a pencil mark ring as seen by the left eye appeared much larger than those seen by the right eye. They had to be brought much nearer to the eye before their circumferences touched than in the case of those seen by the right eye; say, about five inches in the former case, and ten in the latter. Before the sèance this distance was the same for both eyes, as I had noticed after careful observation.

May 27th.—Before the sèance Miss E. C., in day light, saw through the double image prism two images when using the weak left eye, though she could not perceive the colors of any of the wools offered for inspection. The sight of the right eye was quite normal. After the sèance she saw but one image of a ring drawn on paper through the prism when the left eye was used. The concave glass corrected the defect,

and enabled her to see both. During the sèance, which was held in the dark, and where many lights were seen flitting about, she remarked that she could not see the lights doubled by the prism. She over and over again said she saw the light very small and simple, and this she said was the case with the two eyes. While examining her after the sèance and while her weak left eye was corrected with the concave glass, to enable her to see the double image of the ring, pressure was accidently made on the right eye-ball, that eye being closed at the time; she immediately remarked that she saw four images! This extraordinary observation was repeated again and again with the same result. These images did not fade out as the prism was turned round. Before, when she saw the second image through the aid of the concave glass, one image faded out as the prism was turned. On the same occasion Miss E. C. could see the double image through the prism before and after the sèance. She saw the colored wools somewhat better than usual; she could see red pretty well, both dark and light, but she called the blues "greens," and the yellows "gray." During the sèance, she declared that she saw the lights which appeared in the dark room double, but this proved on examination to be in all probability due to want of proper adjustment of the axis of the eyes, so as to let the rays fall on corresponding points of the retinæ; for when each eye was closed in turn the lights appeared to be single to the open eye. I merely mention this to show that rational precaution against error was always observed.

It appeared from observation that every member of the family, including the mother, three daughters and one son were more or less the subjects of abnormal color sensibility. It was ascertained that Mrs. C., the mother, possessed the following remarkable peculiarity. On being given light pink wool to match, the left eye being closed at the time, she picked out a darker pink from a group of colored wools. She was then given the same pink to match, the right eye being closed, and she picked out a very light brown. But strange to say she matched colors well when using both eyes. She gen-

erally makes choice of lighter shades with the left than with the right eye singly. There was also in the case of her son, a youth of eighteen years, a difference of color appreciation on the two sides without pronounced achromatopsia, as in the case of his three sisters.

The following notes are very interesting as throwing light upon the puzzling question of deranged color vision: Miss K. C. was examined with colored glasses on January 16, 1882. On that occasion she exhibited the remarkable peculiarity of reverse color vision for red and green. When green glass was held to her left eye, the right being closed, she at once said, "red, a nice bright red." This was said to be the same sensation as when red glass was held to the right eye. Again, when red glass was held to the left eye, the right being closed, it was called "green." It was said to cause nearly the same feeling as when green glass was held before the right eye. The same was found to be the case after a sèance on the 18th of January, the colors, however, being darkened, while yellow light was called "gray," and blue and yellow light "black." All the colors were restored when a concave glass was held outside the colored plate at a distance of four inches. When held closer to the eye it had no effect. These experiments were several times repeated with the same result.

On January 29th, 1882, an interesting observation was made in the case of the eldest sister with whom I had experimented ten years before and with whom I had first studied the psychical import of variable color vision. When a plate of green glass was held before her weak eye she said the light was "gray," but immediately on its removal she said she saw "violet." When red glass was held to her eye she said it was "gray;" then, when it was taken away, she said she experienced the sensation "green." This may be relied on as certain. With her good eye this remarkable peculiarity was less pronounced. It will be seen that it gives the key to the reverse visions of her sister, described above. The elder sister showed what I may call semi-reversal.

It appears from these results that both red and green sensa-

tions may be excited by the same physical cause; but the special sensation is determined by the state of the organism at the time. The theory of color blindness advanced by Mr. W. Stanley Monck of Trinity College, Dublin, receives support from the above observations on reverse vision. His idea was that in true color blindness, owing to a functional peculiarity of the organism the pair of complementary colors were excited together with a neutralizing effect, by the presence of the stimulus corresponding to either of them acting on the retinal expansion.

The conclusions to be drawn from these experiments appear to me to be as follows:

1st. Nervous states with a tendency to hysteria may be accompanied by a derangement of accommodation in one or both eyes, which is indicative of a more general defect of "attention" on the part of the automatic centres of the brain, whereby the elements of sensation are generally combined into higher psychical complexes. Observation with the opthalmoscope and otherwise led me to the belief that functional inactivity depends rather upon a deficient supply of blood than upon direct inhibition. I found that forced attention restored the visual function in one of the sisters when I used a distorting instrument, "Stokes' lens," to excite her curiosity when looking at small type.

2d. The existence of this state is a predisposing cause in the manifesting of psychic phenomena, such as are usually shown by respectable mediums under test conditions, at least in the instances of the young ladies here referred to; while the nose bleeding and the aggravation of visual defects in them gave direct evidence of congestion or stasis of blood in the brain and probably also of anæmia in varying and unknown degrees, the latter supposition being supported by the trains of objective nervous symptoms so commonly seen in the case of "mediums" during "manifestation."

3d. The actual occurrence of extraordinary psychical events being provisionally granted for the sake of an application of physiological theory, it appears very probable that the

relationship of the cerebral cortex to the muscular system is profoundly modified, and to such an extent that psychical states find other modes of expression than those depending upon the mechanical influence of a visible and tangible intervening substance, the nervous system being thereby placed in a more direct relationship with the space content.

The correlation of the visual and muscular systems being found by observation and experiment to have been interfered with, it is allowable to speculate upon possible manifestations of psychical activity in which heat does not play so prominent a part on the psychical side of the sequence, other modes of vibatory action taking its place, with a corresponding change in the psychical chain. There is a complete analogy afforded in the region of mechanical philosophy when physicists attempt the direct transformation of latent energy without the intervention of the steam (heat) engine, muscle being a heat engine and the most economical that we know of.

P.S. I am sorry to have to trouble you with such a long delay in sending the photos. Address Post Office Tampa Fla.



Cullman Ala
Dec 23 - 1892

Dr John S. Billings
Washington D.C.

My dear Doctor Billings,

Had a note from Prof. Langley to say that he would pass on to you the photos of sphygmographic tracings taken by me with the view of illustrating the existence of what is commonly called rapport of sympathetic physical relation of one nervous system with another. Wish to thank him adding that there was no one to whom I would better make to back my work submitted.

In 1881 the idea first struck me that if such

a thing as thought-reading, communing of sensation and all these interactions claimed to take place actually did exist (and I had excellent reasons to believe that they actually did exist) the story of the same might be somehow related to the functional activity of the organism so engaged. I was not long using the Physiograph before I found matter suggestive of thought.

Was fortunate enough to have at that time a couple of young ladies staying at my house who as true hypnotic friends valuable data. I found

that. Miss K. R. a cousin of my wife was very doubtful about the time of her menstrual periods and that her left radial trace was greatly like that of my wife or my own. I think there can be no doubt about this. I also had under observation in hospital (I was Surgeon Major in Charge at Guernsey, Channel Islands) several neurotic subjects, suffering from rheumatoid complications who confirmed the other observations, showing supports both myself and both each other. The evidence I have to produce will have this beyond question. Finally when I found my subject well

I was fortunate enough to find three persons who with myself afforded the interactions which supplied the similar tracings spoken of which have been sent to you. I actually got like wise tracings and good ones when the so called spirit knocks were heard by myself as well as others.

The men Lynch and Williams were in a prisoners ward by themselves with bars on the windows and under lock and key. The woman Fenger lived in the next room with her husband an orderly with a brick wall between her room and the prisoners' ward. She never had anything to do with the two men and yet there are close resemblances between her traces and those

2/ of both the men (generally separately) which cannot be put down to accident.

This woman often showed tracings like my own as did also the men both separately and together. For instance on the 11th Jan^y 81 we were all there like one another while the woman was cut off from us having at that time a violent sick headache.

The men were both neurotic subjects and bad characters (regimentally speaking) who were always getting into trouble. The woman was more or less epileptoid and had an attack of unconsciousness about the time the noises and disturbances heard in the pris-

ones' ward were first complained of. She was however much more stable in her nervous tone than were the ones who had little or none especially Williams. As myself I must say that I have a powerful organization with a tendency to the emotional and the imaginative but with an intellect trained in the physical and mathematical sciences that makes everything submit bit for an explanation. My brother has the gift (or negative attribute if you will) of clairvoyance &c; so that though I have never exhibited any of these mediumistic traits myself

personally I am not wholly different from those who are so constituted.

My experiments showed me that generally those who were acted on by others showed different tracings on the two sides, one opposite was alone like the person acting upon him — this approved the very general second that the fact of isochronous pulses was not necessary in the case of sudden likeness, one pulse being occasionally much slower than the other. Thirdly that part of a tracings might be very like that of another without the resemblance being continued either in

in the individual tracing or in the succession of other heart cycles. The fact of likeness, without reference to the details of its physical causation is the fact truth upon which I insist, in the first instance.

To produce these results it is necessary to have one who may be said to have no fixed individual tracing of his own indicative of a stable organic character, like handwriting, but when he is so disturbed retains the impression made upon him for a greater or less time as the case may be.

From this likeness I argue to the existence of a common organic attitude during the existence of the support, a small slice of which is thrown in by the aid of the sphygmo

3) As we must believe that all psychical states have physical states corresponding to them, (the other underlying them in part) the existence of a book image of energy distribution (a blood image as I call it for short) must be postulated as antecedent to the execution of any design so that the blood may be distributed to the tissues in accordance with the functional activity to be brought into play. But it is in accord with all modern physiology to believe that when energy is expended by the living body that it is from a store of potential energy that the drain comes and not from the instantaneous change of tissue from moment to moment for it would be next to

possible to frame a theory of designed work distributed throughout the elements of the body regarded as units undergoing chemical change.

The case is quite different however when we suppose a life-stuff, a protoplasmic matrix, into which design is, as it were moulded potentially, to be returned actualized in the reduction of that protoplasmic mass to its ashes, water, carbonic acid, urea &c! We lack here a consistent system of thought for it is this stuff which we must suppose to be in dynamic connection

with the ether or space
content proper i.e.,
the actual and the sub-
stantial in its objective
aspect. Physicists hav
hitherto used the hypothe-
tical ether to account
for these phenomena by
endowing it with all
the required properties
We workers in physiology
and psychics are going
now to take a hand and
endow the ether with
such properties as we
require and a very natural
one is a vital relation
to all living beings.
With the pulse tracings
I sent to the Smithsonian
Institution there were en-
closed some photos of

which have been known in England as "The Beattie Photographs." There is no mystery about them. They are pictures of the stuff which comes from the bodies of "mediums" on accession — It is physiological or pathological, & you must decide it. The photos were taken by Mr. John Beattie and Dr. George Thompson of Boston England in 1872 — the experiments, made more recently than photos. I have found (I found them 11 years ago and showed them at Dr Gordon in 1881 when them at the Congress but Psychical Science was not wanted then) the physiological justification of my theory, as Beattie found the physical. I have had 40 new pr made lately and shall send them to you when ready. Believe me

Very truly Yours John E. Purdon M.D.
(late Surg. & Major Eng. Army)

Allegheny
Dec 3rd '92





Prof. Langley
Smithsonian Institute
Washington, D.C.

My dear Sir,

I have this day sent to the Smithsonian Institute some photographs of pulse tracings taken by me in the case of a group of "nervous sensitives", with the view of proving the existence of nervous attraction or influence and the manner of it. The work was all done by myself two years ago. The time is now coming to bring my discovery to

the point as psychologists will be prepared because it tends

May just mention in this short communication that Williams and Lynch were two male prisoners under guard in a room by themselves and that there was a woman staying in the next room with a solid brick wall between the two and that the latter had any communication whatever with either of the men whose pulse tracings on occasion here found to resemble hers so closely. All the work was done by myself and many of the knocks referred to on the tracings

were heard by me when the tracings were being taken by the sphygmographs.

I also send you copies of the original photos. received by me from Mr. Beattie in 1892. I regard them as absolutely genuine; in fact, they speak for themselves. I have used them as the text of many of my own theoretical speculations and indeed it was with the view of giving them a physiological interpretation that I began my experimental research with the "nervous sensitives" above referred to.

There is no doubt, from my somewhat large experience

in this department of psychology, but that in the thorough application of the principles involved in this discovery we possess the means of bringing a great deal of apparent contradictory and transcendental material within the range of rational science.

I hope to have the pleasure of sending you an explanatory pamphlet before long

Remain
My dear Sir,
Very truly Yours
John E. Purdon
Univ. Dubl. M.D.

# Smithsonian Institution

Washington, D.C., Dec. 30, 1892.

Dear Doctor Billings:

I take the liberty of sending you, by messenger herewith, a letter from Doctor John E. Purdon of Cullman, Ala., together with a copy of a monograph by Doctor Purdon "The Psychical Import of Variable Achromatopsia" and a collection of photographs of pulse tracings.

The subject of Doctor Purdon's investigations is one on which I hardly feel qualified to express

Smithsonian Institution

Washington, D.C., _____ 188_

an intelligent opinion, but I have thought the matter might prove of interest to you.

I have informed Doctor Purdon of my action

Very truly yours
S.P. Langley
Secretary.

Doctor John S. Billings, U.S.A.
Army Medical Museum
Washington, D.C.


True copies of photos. taken by Mr. Arthur Beattie and Dr. Thompson of Bristol, Eng. in 1892 — R. E. Purdon M.D.

Second Series No 1

Second Series No 2

Second Series No 3

Second Series No 4

Image coming to Shutter taken by Mr Blue Beattie) 2nd

True copies of photos taken by Mr. John Beattie and Dr. Thompson of Bristol Eng. in 1872 J. E. Purdon M.D.


Sixth Series — No 1


Sixth Series — No 2

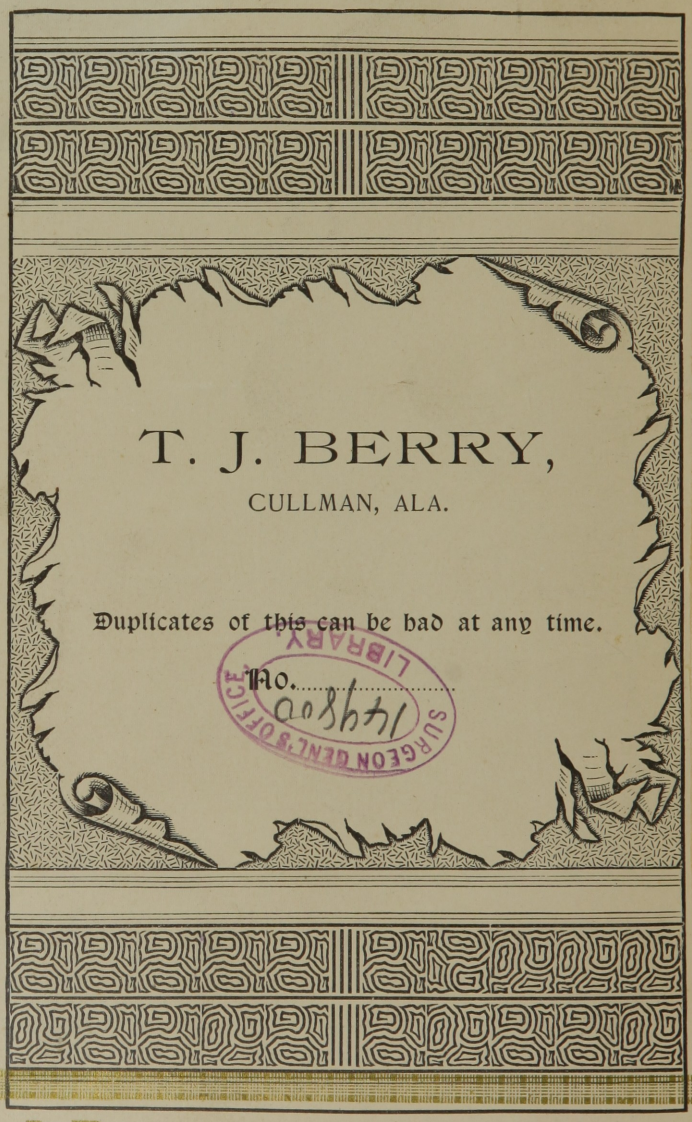

Sixth Series No 3

4

No 15

Dec. 3 & 4.
Jan. 5th

Dec. 4. Jan. 5th



nuary 5th 1882.

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illiams 8

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January 9th 1883.

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January 9th — 1882.

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Williams 4

See 9 Jan. 9th

Lynch 5

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nuary 11th 1882.

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Williams 4

See 10 below.

Williams 5

See 8 & 9 below.

Williams 6

See 10 below.

Purdon 7

See 9 below.

Purdon 8

See 5 above
See 9 & 10 below.

Lynch 9

See 5, 7 & 8 above.

Lynch 10.

See 4, 6 & 8 above.

January 12th 1882

C

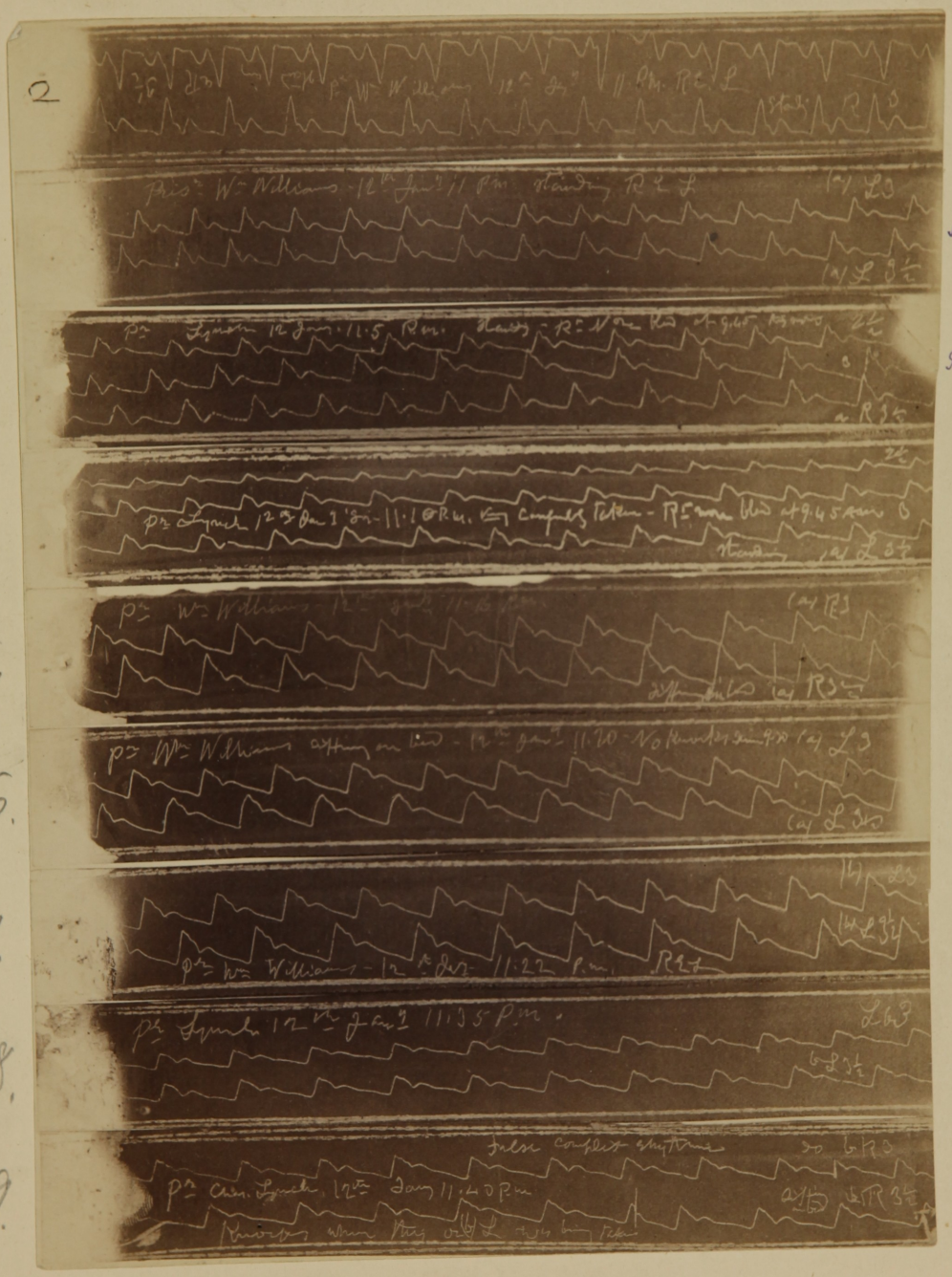
1.

Williams 2.

See 3 below.

Lynch 3.

See 2 above.




4.

5.

6.

7.

8.

9.

an 12-1882

1

2

illiams 3 See 4 below.

Lynch 4 See 3 above.

5

6

7

8

uary 14th 1882.

1

1.

2.

Fenge 3.

Fenge 4.

Fenge 5.

Fenge 6.


See 4. & 5.
Jan. 14th

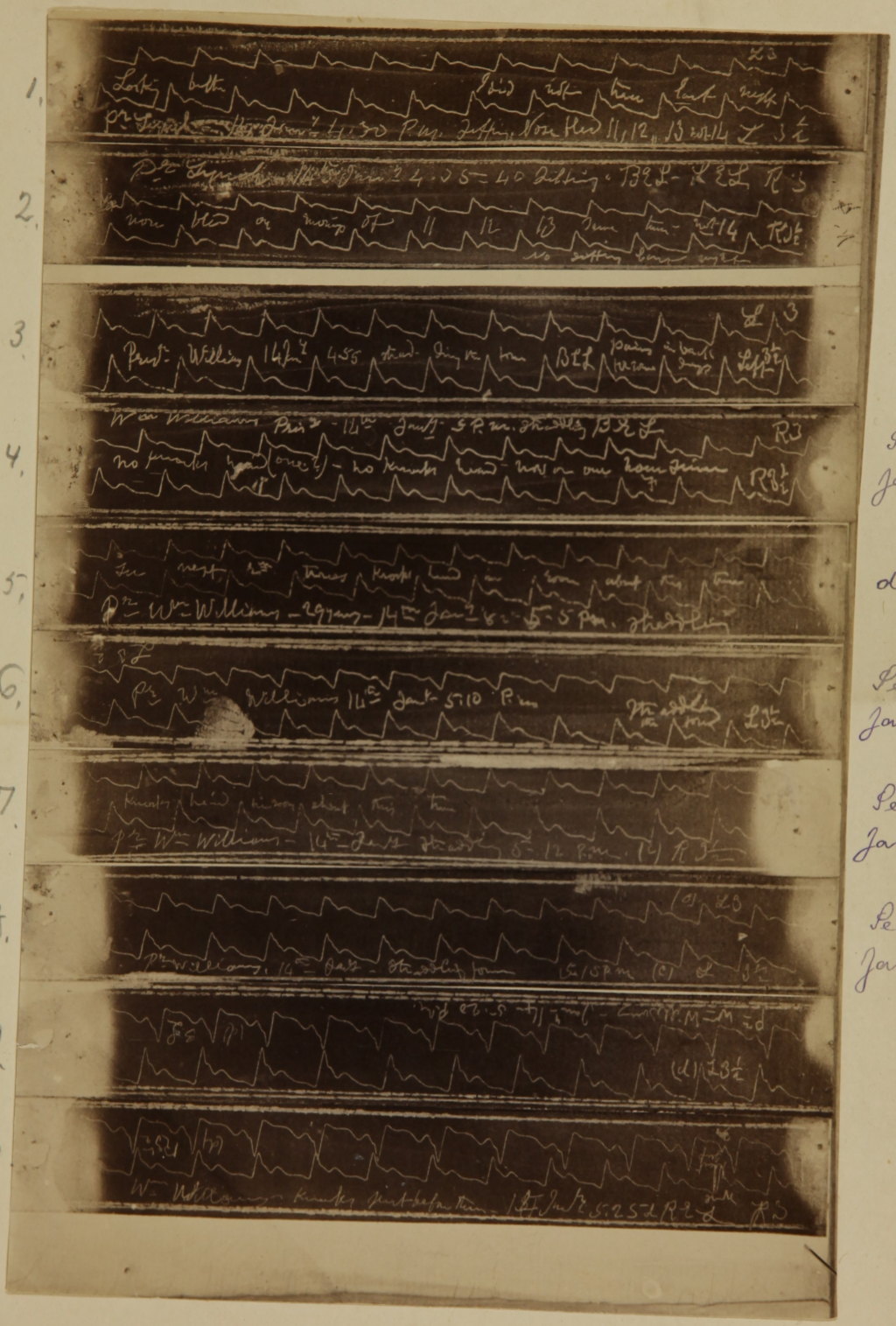
See 6.
Jan. 14th

See 8.
Jan. 14th

See 7.
Jan. 14th

January 14th 1882

B



1.

2.

3.

Williams 4.

Williams 5.

Williams 6.

Williams 7.

Williams 8.

9.

10

See 3. Jan. 14th A

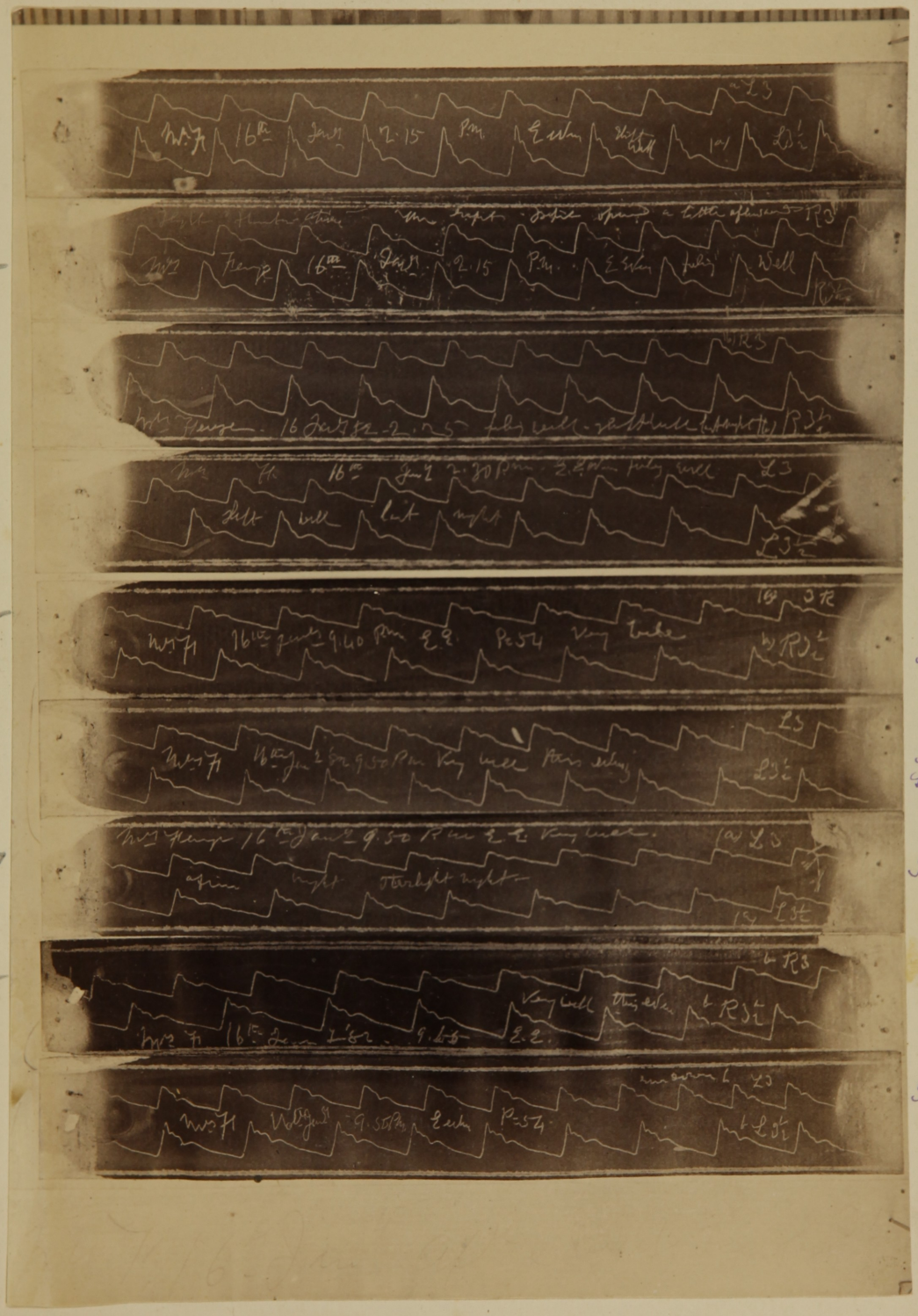
do. do.

See 4. Jan. 14th A

See 6. Jan. 14th A

See 5. Jan. 14th A

Jan 16 – 1882
4



1

2

3

4

Henge 5 — See 2. Jan. 16th B. See 3 & 4. Jan. 16th C

Henge 6 — See 6. Jan. 16th B. See 2 &c

Henge 7 — See 5. Jan. 16th C

Henge 8

Henge 9 — See 2, 6 & 7. Jan. 16th B.

January 16th 1882.

B.

1.

Purdon 2.

See 5, 6 & 9. Jan. 16th A

3.

4.

5.

Purdon 6.

See 6 & 9. Jan. 16th A

Purdon 7.

See 9. Jan. 16

8.

9.

January 16th 1882

1.

2.

Lynch 3. See 5. Jan. 16 A

Lynch 4. See 5. Jan. 16. A

Lynch 5. See 7. Jan 16. A

6.

7.

Jan 19 - 1882

A

lliams, 1 — See 3 below

lliams 2 — do.

ynch 3 — See 1 & 2 above.

4

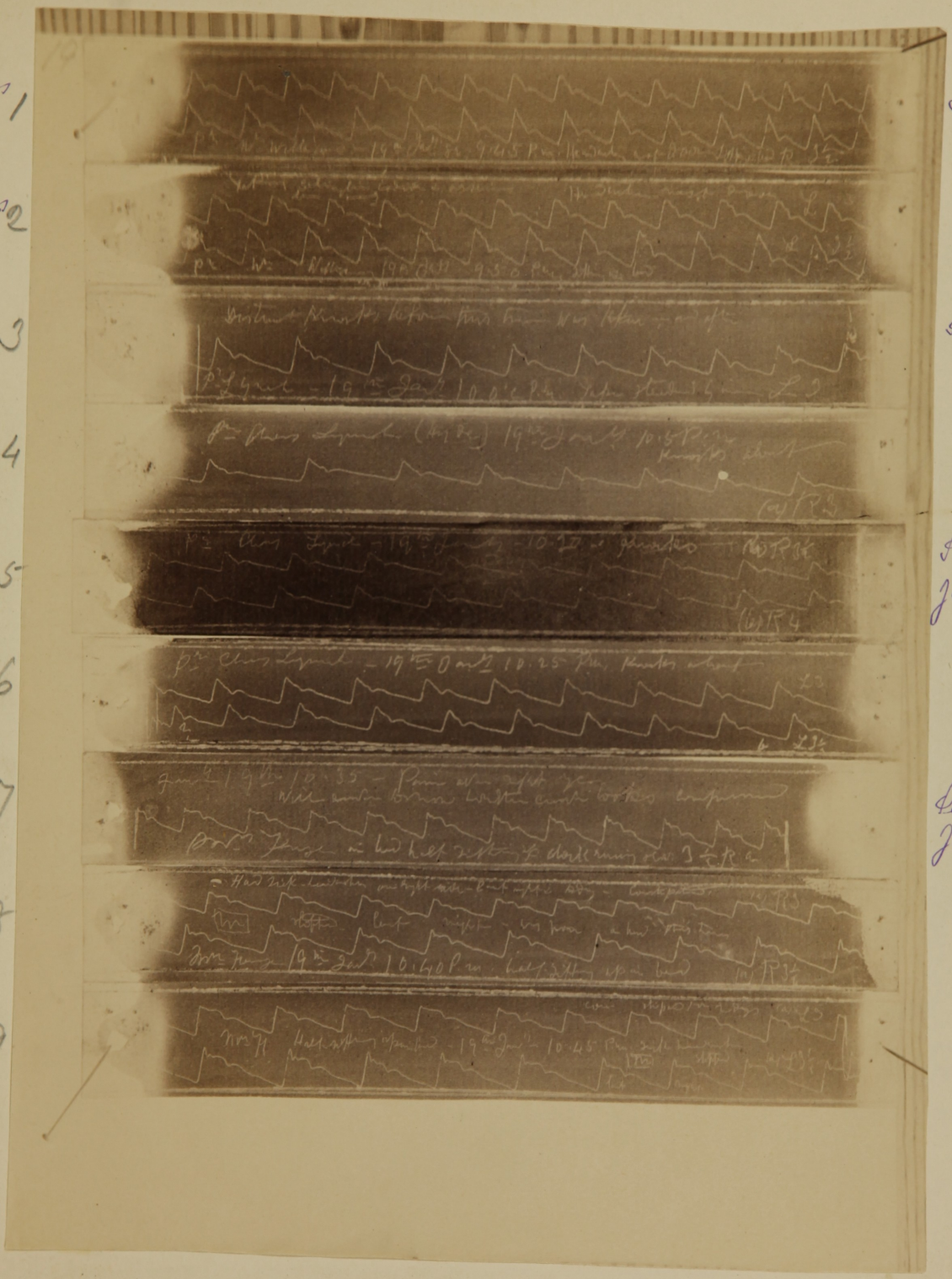
ynch 5 — See 1. Jan. 19th B

ynch 6 — do.

nge 7 — See 5. Jan. 19th B

nge 8 — do.

nge 9 — do.



January 19th 1882.

B

Williams 1.

See 5 & 6
Jan 19th A

2

3.

4

Williams 5

See 7, 8 & 9.
Jan. 19th A

6

7

8

9.

January 20th 1882.

1.

Fenge 2. See 4. Jan. 20th B

Fenge 3. See do.

4.

Fenge 5. See 4. Jan. 20th

6.

Fenge 7. See 4. Jan. 20th C

8.

Fenge 9. See 4. Jan. 20th B

10

Jany 20th 1882
B

1

2

3

Williams 4

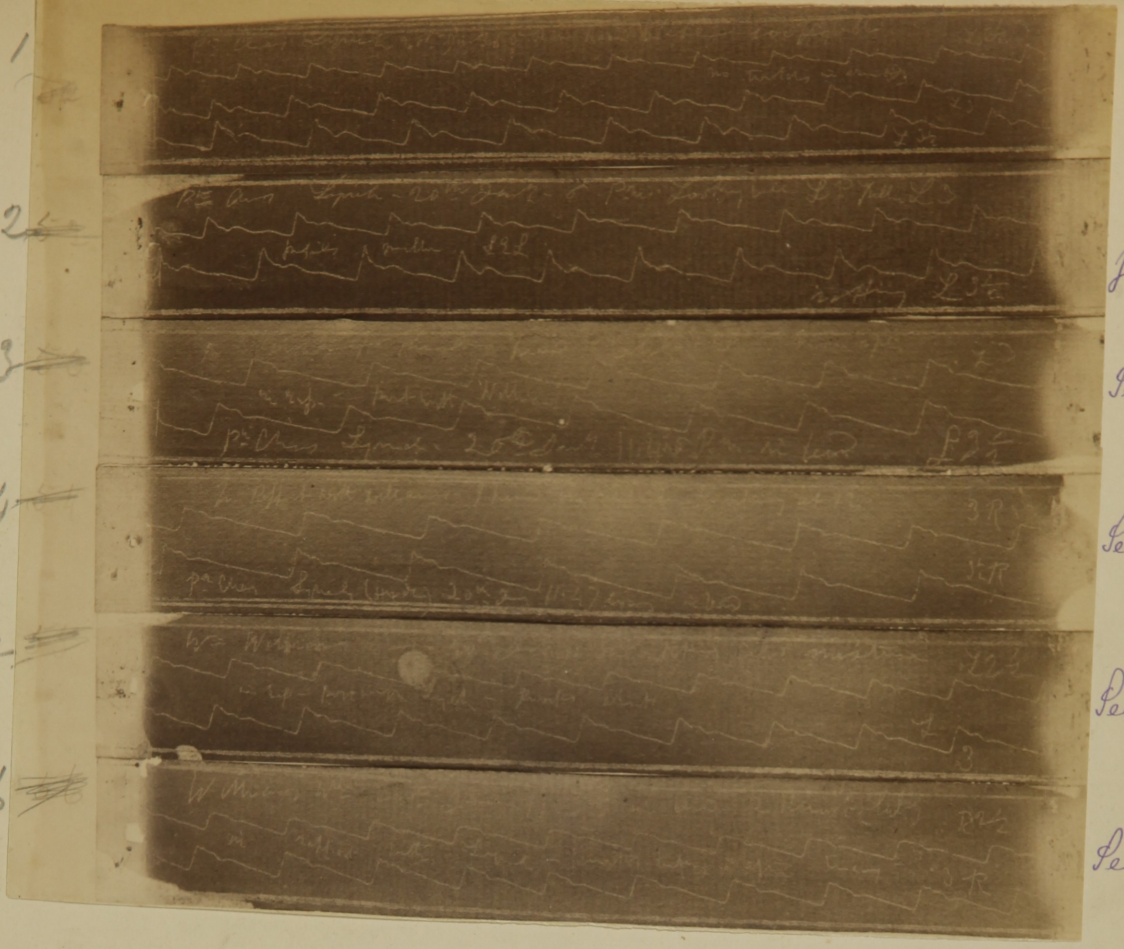
5

6

7

8

See 2, 3, 5 & 9.
Jan. 20th A



1

Lynch 2

See 7
Jan. 2

Lynch 3

See 5 b

Lynch 4

See 6 b

Williams 5

See 3 a

Williams 6

See 4 a

Jany 25th 1882

B

Lynch
7.5 P.M. Jan 25

Lynch 2

Lynch 3

4

Purdon. 9. P.M.
after taking Lynch.
strange trace

Purdon
P.M. 6

Kelly 7

8

Kelly 9

10

See 6 below

See 4. Jan. 25th
See 5 below

See 6 below

See 2 above

See 1 & 3 above

See 4 Jan. 25

See 5. Jan 25

January 25th 1882.

D

Pardon 12.30 midnight
Jan. 25

Pardon

1.

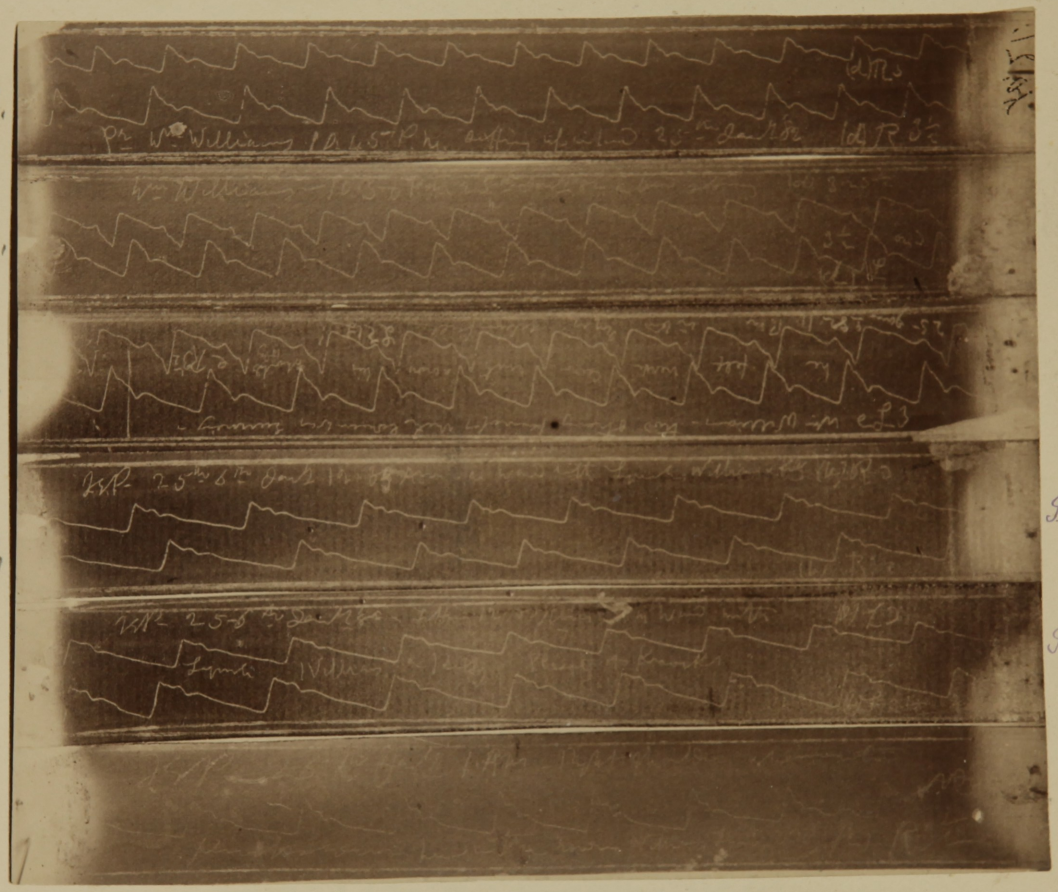
2.

3.

4.

5.

6.



See 2 & 7. Jan.

See 9. Jan.

January 27th – 1882

Williams 1.

Williams 2.

Lynch 3.

Lynch 4.

5.

6.

See 3 below

See 4 below

See 1 above

See 2 above