

the Woodbridge treatment. On the second day of the treatment there was an alarming hemorrhage from the bowels. Notwithstanding this, on the tenth day of treatment the temperature reached normal, and eight days afterward the patient returned home. All medicine was withdrawn and he was allowed to exercise and indulge his appetite *ad libitum*. Ten days afterward his physician was recalled and the soft capsules were resumed. Five days later we saw him again in consultation, and found him with his knees drawn up, abdomen greatly distended and suffering great pain. The patient expired the day following, doubtless from perforation, and an autopsy could not be obtained. Here was a case in which the patient was allowed to leave the hospital too soon and lost his life from imprudence. We think it fair to report all cases, successful or unsuccessful, and we ascribe failure in this case to improper management. We should therefore be exceedingly careful of the diet, even in apparently mild attacks of this disease, for ulceration may already exist when we commence treatment.

In recapitulation we recommend that the treatment be commenced as early as the diagnosis can be made, and persistently carried out until the temperature becomes normal. A careful supervision of both diet and exercise is important to insure our patient against relapse. We have observed under it diminished mortality. It is a treatment pleasant to physician, attendant and patient. It produces early disinfection of the intestine at the seat of the disease, and prevents serious complications. Baths are unnecessary except so far as surface bathing may contribute to comfort and cleanliness. Antipyretics and opiates are dispensed with. There is a quick return of appetite and rapid convalescence.

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### THE EFFECT OF X-RAYS IN OPHTHALMOLOGY.

Presented at the Fourth Annual Meeting of the American Academy of Railway Surgeons, at Chicago, Ill., Oct. 6-8, 1897.

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In December, 1895, Professor Röntgen gave to the world his great discovery that an invisible ray, now known as the X-ray, produced by sending a current of electricity through a vacuum tube, had the power of penetrating solid and opaque materials and leaving its impress on a sensitive plate. Aside from its great scientific value, this event marks an epoch in the history of medicine comparable to such discoveries as anesthesia and of antisepsis. Although there are experiments being made throughout the world and apparatus being perfected in every way, the new force, so far as its scientific or practical value is concerned, may be considered in its infancy and, as in the case of the discovery of ether and antisepsis, it has so far given its greatest aid to surgery, yet I am sure it will only be a question of time when, as we gain further knowledge of its power and effect further improvement in the apparatus used, we shall see that it will give equally valuable aid in medicine in determining the diagnosis of obscure pathologic conditions. The practical utility of this wonderful force was first demonstrated in surgery. Experiments were concurrently being made in all branches of medicine, and ophthalmologists especially watched the early developments with great interest.

As nobody knew the extent of the new, wonderful force, as with all unknown things, there was a vast field for speculation. Many of the enthusiasts claimed, and the claim was taken up by the newspapers of the country, that the new discovery would confer upon suffering humanity one of the greatest boons conceivable: it would give to the thousands of inmates in blind asylums vision to their sightless eyes. On the other hand, from a diagnostic point of view, for which we had hoped so much, we experienced immediate disappointment. All experiments showed that owing to the unfortunate position of the eyeball, surrounded by the bony walls of the skull, which were at that time thought impenetrable to the rays, the value of the X-ray in determining the presence or in locating foreign bodies in the eye, was practically negative. As regards the hope of producing vision in the blind, these experiments, so far, have shown that for any practical benefits the X-ray is useless. Dr. Brandt<sup>1</sup> stated, at an early date, that by removing the lens, the retina becomes sensitive to the X-rays. This was immediately contradicted by Bullot,<sup>2</sup> who showed that the lens was also transparent as other neighboring tissues of the eye, the difference being due to their densities.

Experiments made by Dr. Hansell and Dr. Max Stern,<sup>3</sup> at the Philadelphia Polyclinic, on patients with defective vision, as leucoma of the cornea, capsular and lenticular cataract, central scotoma, due to a large patch of central retinal choroiditis and atrophy of the optic nerve, showed that patients were unable to see any more clearly through the fluoroscope than before the production of the rays. This is confirmed by the report by Dr. Wilkerson of the California School of the Blind. He selected six patients for testing, one with destruction of the anterior portion of the eye from an old traumatism, one with complicated congenital cataract, one with partial phthisis bulbi from ophthalmia neonatorum and three with optic nerve atrophy. In none of these cases did the rays assist the vision in the slightest degree.

Boch<sup>4</sup> suggests that persons blind from the loss of transparency of the media might be able to read letters painted on a card, varnished and dusted with a powdered metal, if these were subjected to the action of the X-rays. This is impracticable unless a fluoroscope or some other fluorescing screens, by which the shadows are rendered visible, be placed back of the opaque lens or cornea. Otherwise the source of illumination is no more available than before. All these experiments, I think, show conclusively that the X-ray, as it is known today, will be of no practical value to the blind; and this would seem also theoretically correct, as we know our retinas are only able to perceive a very small portion of the spectrum, namely, (1/20) that portion where the vibrations in the ether extend from four hundred million millions to eight hundred million millions of light. Vibrations of lesser frequency, although not seen, are demonstrated by certain instruments of precision, while vibrations above this number are known as the ultra-violet rays, invisible to the eye but demonstrated by a photographic plate. Now, as the rays are emitted from the tube at a very high rate of vibration, they may be conceived as analogous to the ultra-violet rays which are not

<sup>1</sup> Revue général des Sciences de Paris, No. 21, tome VII, p. 897, Nov. 15, 1896.

<sup>2</sup> Revue d'Ophthalmologie, February, 1897.

<sup>3</sup> Polyclinic, Philadelphia, 1897.

<sup>4</sup> Minor abelin, February, 1897.

perceived by our retinas, and no matter how much they are capable of penetrating obstacles to vision, they could not make the blind see when they are invisible to the normal retina.

As time progresses and as one series of experiments after another confirm the want of value of the ray in helping the blind, we are agreeably surprised to see the advances made in the other direction, from a diagnostic standpoint, which at first thought appeared so discouraging.

Among the most serious complications in the practice of ophthalmology and one that always gives the surgeon the greatest anxiety, is the severe traumatism of the eyeball produced by a foreign agent, causing the coats of the eye to be penetrated, and where the presence or absence of a foreign body in the eye is not known. The traumatism may be great enough to destroy the eyeball for all practical purposes of vision, but the anxiety of the surgeon does not end here, for if a foreign body remains within the eye there is always the danger of the dreaded sequelæ of sympathetic ophthalmia.

In the majority of cases of this kind, we are able to satisfy our minds as to the presence or absence of a foreign body by the history of the case, subjective symptoms and theoretic considerations leading us to a positive conclusion; but there are many times when owing to the obscure history, lesions of transparency and great destruction of the eyeball, our previously known methods of diagnosis are not available. That a positive means of determining the presence or absence of a foreign body would be of the greatest benefit in such cases is unquestionable, and I thoroughly believe we have attained the ability of not only determining the presence of the body, but exactly locating it in the eye by means of the X-rays. This does not pertain to particles smaller than the one thirty-second of an inch. The experiments at first were discouraging, and this was most probably due to the incomplete apparatus. Dariex<sup>5</sup> conceived that the low degree of permeability of the eye by the X-rays would undoubtedly be ineffectual in producing a radiograph. By others who worked with tubes of low penetrating power it was found that the eye, surrounded as it was by the bony walls of the skull, would be an insurmountable obstacle to the production of a radiograph. Van Duyse<sup>6</sup> stated that the anterior portion may be radiographed and suggests the procedure of injecting a salt solution under Tenon's capsule to make the eye protrude. Lewkowitz<sup>7</sup> showed that he was able to make a radiograph of the lids and summit of the cornea and to determine, by an elaborate method of figuring, the position of a gilt spangle placed in the conjunctival sac.

Harnisch<sup>8</sup> says, as the eyeball is almost entirely surrounded by bone, which is practically impenetrable to the rays, we could only hope to discover a foreign body as far back as the ciliary region or, in particularly prominent eyes, a trifle further.

The first cases reported that were of any practical diagnostic value were by Williams<sup>9</sup> and Clarke.<sup>10</sup> Both these gentlemen, by their results, show that the ray will penetrate the bones of the skull and, if a foreign body is in the eye, it will throw a shadow on the plate

dense enough to be seen. Williams placed his patient on a table, with the cheek of the injured side resting on the sensitive plate, and allowed the rays to pass through the nasal bones and through the external wall of the orbit; while Clarke inserted a sensitized film into the nose and placed the tube to the outside of the temple. The reports of this case were followed during the next fall and winter by those of Hansell, De Schweinitz and Oram Ring,<sup>11</sup> assisted by Max J. Stern, who bandaged the plate to the side of the temple. Friedenburg<sup>12</sup> allowed the rays to be passed from behind the head and to strike a small sensitized plate which was cut to fit into the margins of the orbit. In all these cases the foreign body was successfully removed from the eye. These cases are exceedingly interesting, as they show a decided step in advance. They not only demonstrate that the bones of the skull can be penetrated by the ray, but the whole extent of the eyeball can be radiographed, although they all fail in giving us an accurate means of locating the position of the foreign body.

The method of not only showing the presence of a foreign body, but at the same time definitely localizing its position in the eyeball, was shown by the case recorded by Dr. Oliver,<sup>13</sup> assisted by Dr. Leonard, and by Dr. William Thomson,<sup>14</sup> assisted by Dr. William Sweet of Philadelphia. Dr. Oliver's plan is opposed to that brought forward by Exner,<sup>15</sup> in the fact that the base line for triangulation is made anterior to the cranial shadow, and the exposures are repeated sufficiently often at fixed distances and set situations so as to give a multiple series of relational sides and angles from which the exact position of a foreign body can be accurately determined. This is a very good method and has been successful in several cases, by Dr. Oliver, although not as clear and practical for the surgeon as Dr. Sweet's method.

As I have had the advantage of personally studying the case reported by Dr. William Thomson, from entrance to leaving the hospital, and also of using the method devised by Dr. Sweet in localizing the foreign body in cases of my own up to this time I think that it is the most successful method known to insure the required degree of accuracy. The details of the case can be seen in the report of the proceedings of the American Ophthalmological Society, but it is sufficient to say here that the patient was struck in the eye by a piece of steel, some eight months before presenting himself to the hospital with an exceedingly painful eyeball. The wound of entrance was plainly visible to the outside of the cornea, and an ophthalmoscopic examination showed a dense band of lymph extending from the wound of entrance to the retina, slightly external to the disc. The important diagnostic point to determine in this case was whether the steel was present in the eyeball or had penetrated and lodged in the orbit, in a benign position.

The case was radiographed by a series of pictures, each one of which showed the exact position of the foreign body. Dr. William Thomson operated, making an incision in the sclerotic and inserting a magnet, but without any result. However, having great confidence in the method, he picked up the band of cicatricial lymph with a strabismus hook, following it to its final insertion, the retina, excised it and, to his

<sup>5</sup> *Annal. d'Oculistique*, t. 115, p. 218.

<sup>6</sup> *Archive Ophth.*, Tes., 1896.

<sup>7</sup> *Lancet*, 1896, II, p. 452, and *Centralbl. f. Prakt. Augenheilk.*, January, 1897.

<sup>8</sup> *Annal. Oph. and Otol.*, 1896.

<sup>9</sup> *Trans. American Ophth. Society*, 1896.

<sup>10</sup> *Ibid.*

<sup>11</sup> *Am. Oph. Transactions*, 1897.

<sup>12</sup> *N. Y. Med. Rec.*, 1896, p. 694.

<sup>13</sup> *Am. Oph. Transactions*, 1897.

<sup>14</sup> *Trans. American Oph. Society*, 1897.

<sup>15</sup> *Deutsche Medicinische Wochenschrift*, Jan. 7, 1897.

great pleasure, found the foreign body in it at the exact position as demonstrated by the radiograph. The magnet was not successful, as the steel would not attach itself owing to its partial covering of lymph.

The other point illustrated by this case is that it showed accurately the foreign body, inside the eye instead of the orbit. I had an opportunity of seeing a case a short time ago where the eye was enucleated for a supposed foreign body. After enucleation a piece of steel was found to be lodged in the orbit, having completely penetrated the eye. An X-ray picture would undoubtedly have demonstrated this and saved the patient a serious operation and allowed him to retain the eyeball without danger. The case of Dr. Thomson not only shows the X-ray as an important means of diagnosis in these cases but also as a great help to the operator in removing the foreign body after its exact localization.

Another case which has come under my care recently, although too early to state positive results, will help to show the advantage of the X-ray in diagnosis, in a negative way, by excluding the presence of a foreign body. A man some seven weeks ago was struck in the left eye by a small piece of flying steel from a rivet. He immediately went to a hospital in New York, and was told by the surgeon that he thought the steel to be in eye, but preferred treating him conservatively for a few days. After a treatment of a week, as a traumatic cataract was probably forming, preventing observation of the interior of the eye, and symptoms increasing in severity he advised the removal of the ball. The man declined and consulted another surgeon with the same result. He presented himself before me with the following appearance: The eye slightly red, cornea clear, linear scar three millimeters, in the upper and inner periphery of the cornea, also wound of the iris immediately back of the wound of the cornea, this having the appearance of being dragged in as if it had been punctured, and a small synechia of the pupillary margin, dense, traumatic cataract, ball painful, fields good. I had the eye radiographed and six plates taken on the first day. These showed no signs of foreign body, but owing to the great heat of the weather, the developing was unsatisfactory. Thinking heat might have affected the plates, another trial was made the next day, and this time eight plates were taken. These were all good radiographs but no sign of the foreign body was visible. I therefore decided to be governed by the radiograph in the treatment of the case, and thereafter regarded it as punctured wound without the presence of a foreign body. As the lens became somewhat swollen I did a cataract extraction combined with an iridectomy, incising the iris at the point of injury, thinking I might find the foreign body at the lens or iris. This also proved fruitless. The case recovered from the operation and is doing exceedingly well, and I firmly believe, although too early to state positively that as there is no foreign body present in the eye, the man will retain not only his eye, but his vision.

Ophthalmology is undoubtedly indebted to the X-ray, as it has added another accurate method in diagnosis of the injuries complicated by presence of foreign bodies.

As regards the deleterious effects of the X-ray, they are small in comparison to the great benefits derived. I have seen several instances of the hair falling out and slight dermatitis, but this is always due to the fact of the vacuum running down and the rays not

penetrating, and to long exposures. I have never seen any serious damage to the eye.

[Dr. Thomson then showed the apparatus and demonstrated Dr. Sweet's method of localizing from the charts made in the case of Dr. William Thomson. The following description being given by Dr. Thomson from "Transactions of the Ophthalmological Society" for 1897:]

For this purpose an indicating apparatus is used, carrying two steel rods, each with a rounded end. The indicators may be supported by a head band, and the plate held to the side of the head by an ordinary bandage. The balls of the indicator are at a known distance apart, one pointing to the center of the cornea, and at a known distance from the eyeball, while the other is parallel to the first, toward the external canthus. The visual line is parallel to the indicators and to the plate. The balls should also be perpendicular to the plate.

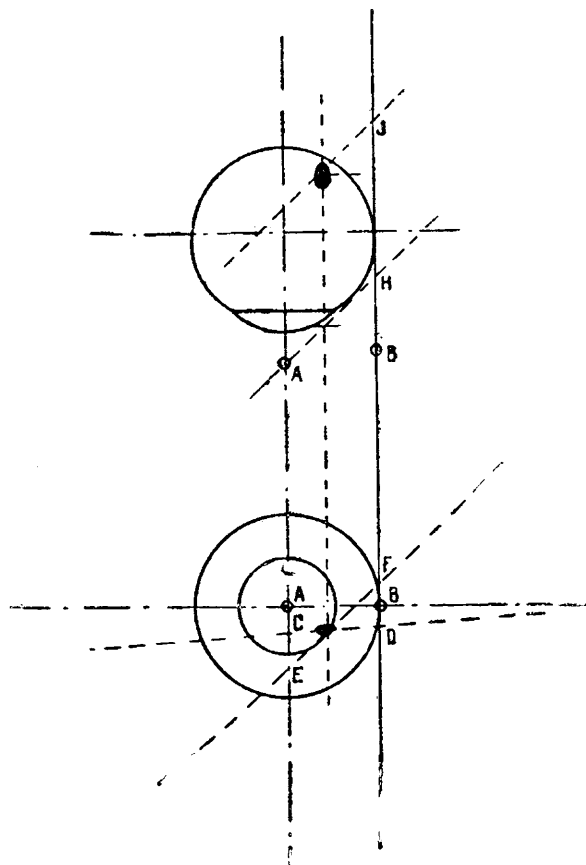


FIG. 1.—Diagrammatic circles of the eye upon which the measurements are made to show location of foreign body. Upper circle horizontal section; lower circle vertical section of eyeball.

In making the negatives the tube is in front, about thirteen inches from the plate, and at an angle of from 15 to 40 degrees, with a vertical plane passing through the apex of each cornea. The plate is at the opposite side of the head, and the rays pass through the eyeball and the external orbital wall before reaching the sensitive film. Two exposures are made, one with the tube in a horizontal plane, or nearly so, with the two indicators, and the second at any distance below. The angle of the tube below the horizontal is unimportant, so long as the two exposures give different relations of the indicators on the negatives.

In determining the position of the foreign body in the eye, two circles, twenty-four millimeters in diameter, equivalent to the size of the globe, are drawn upon paper. One circle represents a horizontal section of the eyeball, and the other a vertical section. Upon the vertical section a spot (A) is made at the center of the circle, indicating the position of the central indicator of the apparatus. The distance between the two indicators is measured toward the temporal side, and a spot (B) made to show the position of the external indicator.

On the circle representing a horizontal section of the eyeball,

a spot (A) is made anterior to the center of the cornea, and at the same distance that the center indicator was from the eye when the radiograph was made. Another spot (B) to the temporal side, measured by the distance between the two balls of the apparatus, marks the situation of the external indicator. Taking the first negative, with the tube nearly horizontal to the two indicators, we measure the distance of the foreign body below to the two balls of the apparatus. These measurements (B to D and A to C) are indicated on the circle representing the vertical section of the eye, and a line is drawn

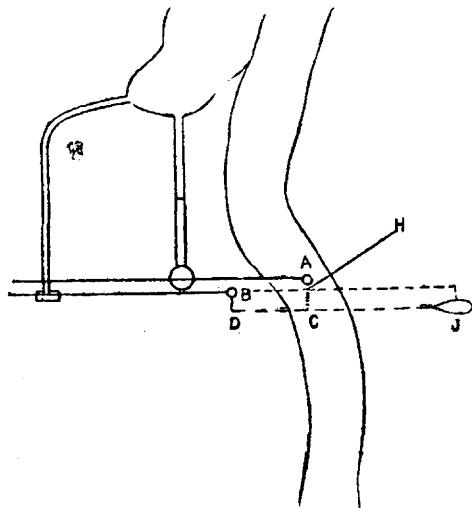


FIG. 2.—Outline drawing of negative made with tube nearly horizontal.

through the points (C, D). At some point along this line is situated the foreign body. From the second negative (Fig. 3), made with the tube below the plane of the two indicators, the measurement is taken of the distance (A, E). The shadow of the foreign body is below the center indicator, and this point (E) is indicated on the first circle. The distance the foreign body is above the external indicator (B, F) is measured, and the point indicated on the circle at (F). Where a line drawn

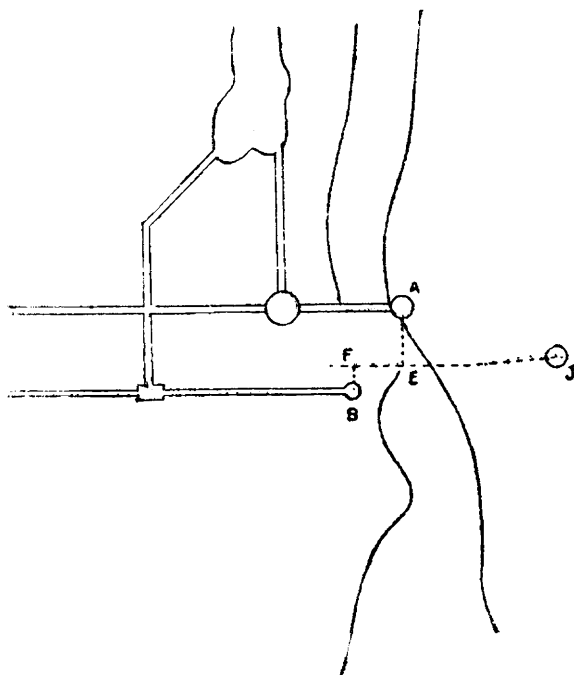


FIG. 3.—Outline drawing of negative made with tube below the plane of the two indicators.

through these two points crosses the line of measurements made from the first plate is the situation of the foreign body, as respects its horizontal and vertical position in the eyeball.

To determine the distance of the foreign body behind the apex of the cornea, the negative made with the tube nearly horizontal is taken, and a measurement made of the distance the shadow of the center ball is posterior that of the external ball

(B, H). The distance is entered directly above the external ball on the diagram representing the horizontal section of the eye. From this point (H) a line is drawn through the ball (A) of the center indicator, which indicates the direction of the rays from the tube when the exposure was made. Taking the negative again, we measure the distance that the shadow of the foreign body is back that of the external indicator. This distance (B, J) is marked perpendicularly to the spot representing the ball of the external indicator on the diagram, and a line is drawn parallel to the direction of the rays from the tube (A, H). Where this line cuts a line perpendicular to the position of the foreign body shown on the vertical section of the eyeball is the distance the foreign body is behind the anterior portion of the cornea.

#### DISCUSSION.

Dr. D. C. BRYANT of Omaha—On account of the location of the eye within its bony cavity, it is difficult to find a foreign body with the X-ray or anything else in many instances. It is exceedingly difficult to locate the exact position of the foreign body. The use of the X-ray, so far as the eye is concerned, will always be somewhat limited in those few cases that we need help. If in a few cases it does help us to locate foreign bodies, or to prove that there is or is not a foreign body in the eye, it will be of great advantage. Outside of the eyeball itself, in the orbital cavity where we have larger foreign bodies, we know it is of great value.

Dr. ARTHUR D. BEVAN of Chicago—I imagine that this method of locating a foreign body in the eyeball might be enlarged and applied to the location of foreign bodies anywhere in the orbit, and I think it is very valuable because of a recent experience which I had in removing a bullet from the orbit, which I reported six months ago to the Chicago Medical Society. In this case a thirty-eight-caliber bullet struck the temporal bone. Probing could not locate it. There were no cranial symptoms. A blood clot, evidently in the orbit, protruded the eye. There was complete blindness for some days in the eye of that side. Within a couple of weeks the eyesight began to return. I had an X-ray picture taken and it located the bullet from one plane, but it was impossible to obtain good X-ray pictures at right angles in order to locate exactly its position. However, I determined from an analysis of the data at hand, with the X-ray picture, that the eye had been blind for some days afterward and pushed out of the orbit, and that the bullet must be somewhere in the orbit behind the eyeball. With that conclusion I operated and removed the bullet, but it took me an hour and a half. I had the general location of the bullet, in one plane, sufficiently accurate in my mind, but I was certainly three-fourths of an inch off in my position in the other plane, and in operating in the posterior portion of the orbit, in the position of the nerves and optic artery, I found it was slow work. I feel satisfied that the work could have been much simplified by an apparatus such as Dr. Thomson describes, and I can readily understand its great value.

As to the statement made in the paper that the disadvantages of the X-ray, using it in a wide sense, are very small and do not at all weigh against the advantages; there are disadvantages in the X-ray that we, in Chicago, are very familiar with, and I think from the reports of cases tabulated and published in the *Johns Hopkins Bulletin*, in regard to the injurious effects of the X-ray, should be very generally known.

I know of some cases in which great injury has been done by the X-ray. We are all familiar with the dermatitis which follows the use of the X-ray. I have seen two cases in which this effect has been extreme, followed by total destruction of skin, the superficial and deep fascia, and the existence of an ulcer for months after the use of the ray. I have also seen total destruction of the eye from the use of the ray and absolute loss of the ear from it. These are points which we should keep prominently in mind.

At the meeting of the American Surgical Association, held in Washington this year, Dr. White of Philadelphia read a paper on the same subject which seemed to belittle the possi-

bilities of doing damage with the X-ray. I think we should all be very cautious of this. These serious effects are not so apt to occur now as they did heretofore, because the exposures are much shorter, and serious damage rarely follows exposures of fifteen or twenty minutes. So much is thought of the injurious effects following the X-ray, in Chicago at least, that the majority of men do not, themselves, take X-ray pictures. They throw the responsibility on the photographer, so much so that one whom I know, practically compels patients to sign a contract to assume all responsibility of injury when he takes an X-ray picture. I feel quite positive that the days of serious dermatitis and injury from the X-ray are numbered, because it is better understood and the exposures are shorter. But these injurious effects should be kept in mind and be widely known. They should be known to the patient who undergoes the X-ray exposure. We have no right to expose a patient without informing him of the possibilities. It should be done in order to protect surgeons from malpractice suits, and the photographer should be cautioned to exercise great care in the use of the ray.

Dr. R. HARVEY REED of Columbus, Ohio—I think the idea of using "triangulation" for the purpose of locating an object is a very valuable one, and it will undoubtedly aid us in locating bodies in the eye as well as in other parts of the body. But there is one point I will speak of, and that is the possibility of damages accruing from making an operation when the X-ray fails to locate what the surgeon is looking for. Here is a medico-legal point which is of no small importance, because, if the radiographist says that a foreign body of some kind is located thus and so and advises me to make an operation for its removal, and I make the operation and fail to find the foreign body, supposing it did not exist, then where would I stand from a medico-legal point of view? In the use of the fluoroscope and the X-ray in the bullet case which I reported this afternoon, the track of the spot was located nearly above the ear and a little above and back of the eye, and the radiographist, although not certain that was the point at which the bullet was located, felt quite sure that was the point at which we would find the bullet. I was not convinced and resorted to the ordinary methods that I would have used had I not had a radiograph taken, and the consequence was I trephined over the point of entrance and found the bullet in the skull as I had located it. Had I made the opening as indicated by the radiograph I would not have found the bullet, and the operation might have been followed by bad results. By using triangulation for the purpose of locating foreign bodies we can thus avoid, to a large extent, the possibility of making operations where no foreign body exists, or where we are mistaken as to its actual location.

Dr. S. C. BALDWIN of Salt Lake City, Utah—Reference has been made to the paper read by Dr. Willard before the AMERICAN MEDICAL ASSOCIATION, and in all of his experience the tube has been placed not closer than from twelve to fifteen inches from the body. As a result he has never seen any dermatitis, sloughing of the skin or anything of that kind. It is a point that might be considered in using the X-ray for this purpose.

Dr. JAMES BERRY of Chicago—Where crude methods have been tried in the location of foreign bodies in the body, they have not been successful in a great many instances.

The tabulation of errors by the X-ray process is valuable for us. Dr. Reed would have been in the same position if he had trephined for the bullet where the skiagrapher thought it was, as the man that cuts into a foot for a needle that is in there and does not find it. The needle is there, perhaps, but not where it is located by the X-ray process. If we report such cases it will have value in giving the process its true standing, and I think its medico-legal relations will soon be settled. I imagine that the greatest difficulty Dr. Thomson would experience in these cases is to get correct pictures. I have tried many times to get pictures of the eye, and through the nose, and have not been very successful.

Dr. THOMSON—I think our results in the use of the X-ray are largely due to the apparatus that we use. It is perfectly evident that the tubes formerly used were so small and imperfect that it was extremely difficult to take a good picture of the orbit such as I have described.

I am not sufficiently familiar with the pathologic conditions in fractures, etc., to say much about it. However, I should think that if a series of pictures were taken with a good apparatus, they would be valuable both from a diagnostic and medico-legal point of view.

I have seen cases where the hair has come out, and again where the patients have had a slight dermatitis. Some gentleman has devised a scheme which prevents dermatitis, or any deleterious effects, by allowing the X-ray to pass through a small film of gold leaf.

## OPERATIVE TREATMENT OF IRREDUCIBLE DISLOCATIONS OF THE SHOULDER JOINT, RECENT OR OLD, SIMPLE OR COMPLICATED.

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### HISTORY.

One morning in 1895, upon visiting my wards in the Charity Hospital, I found an old man with a case of irreducible dislocation of the shoulder of three months standing. He suffered much pain and was anxious for relief. I remembered having seen, during the many years of my connection with this hospital, some eight or ten cases of such irreducible dislocations. Two, who had been put through the extension and manipulation processes, had suffered fracture of the bone near the head. None of those who had resisted tractions and manipulations of all sorts, had been operated; all had been turned away to remain crippled for the remainder of their days. And yet they were under the care of such men as Stone, Richardson, Smyth, Logan, Chopin, Schuppert, all men of recognized judgment and unsurpassed daring. Later, upon writing to a member of this ASSOCIATION, who had once graced the presidential chair, for information on the subject, he answered that very few surgeons operated upon these cases and they were left to be maimed for life.

To show the unsettled condition of mind of some prominent surgeons, I will state that in a private communication from one of them, attached to one of the largest hospitals in this country, he says that the question arose as to whether operative interference should be attempted, and having called in consultation two other prominent surgeons, it was finally decided to operate.

My first impulse was to follow the tradition, but the patient complained so much that I determined to operate, if but to relieve the pain due to the pressure of the dislocated head upon the nerves and vessels. Before doing anything, I attempted to post myself on the operation, but text-books were almost mute on the subject; standard works even said nothing, or very little; special cases or monographs were not at hand and too far away to be had in time. The history of the case is given further. Once engaged in this line of thought I became intensely interested, all the more so, that another case had presented itself at the hospital in the meantime and was awaiting treatment. Upon making bibliographical researches I was quite amazed to see how much the subject had engaged the attention of a number of surgeons, and also how inconceivable it was that in spite of this, so little was to be found in text-books and others on so important and captivating a subject. The first cases are reported by Weinholt and Swanzig in 1819, and by Wattman, 1820. After an interval of nearly twenty years comes a case by Dieffenbach in 1839, and after another lapse of thirteen years, the case of Simon in 1852. The indefatigable Langenbeck then follows with three cases in succession, and Post with one in 1861. Almost every year after this at least one case is reported. In the sixties, three cases; in the seventies, twenty-two; in the eighties, forty-nine. As we draw near the present date, cases become more numerous; the year 1891 alone saw thirteen cases; 1893, eleven;