Greatly improved	31, or 29 per cent.
Improved	14, or 13 per cent.
Stationary	7, or 6.6 per cent.
Worse	11, or 10 per cent.
Died	2, or 1.8 per cent.

In conclusion, I wish to reiterate what I have said concerning medication occupying third place in the treatment of pulmonary tuberculosis, and do not place myself on record here unequivocally as a convert to serotherapy. I have been in no hurry to report my cases treated and have only presented this paper after having had eighteen months' time for observation: the conclusion being that while serotherapy for tuberculosis in general is still in an experimental stage, the results obtained from its use in the incipient cases certainly justify one in its continued use.

With the permission of the Chairman of this Section I propose next year to follow up this report with a detailed report giving the then present condition of all cases now classified under A and B. The C cases, with few exceptions, I expect will die during the coming year.

THE SUBJECTOSCOPE.*

OR SOME SUBJECTIVE VISUAL SENSATIONS.

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In devising an instrument for the study of subjective visual sensations an attempt is here made to accomplish two objects: to settle some disputed questions concerning the nature of such sensations, and 2, to furnish a practical means for the autodiagnosis of disturbances or defects in the field of projection.

It is well, however, at the beginning of this paper to understand that Zehender's definition of subjective visual sensations is the accepted one. His definition is at variance with the definitions given in the *Century*, *Standard* and *Foster's* medical dictionaries, but it is nevertheless the most rational. For the production of subjective visual sensations—"Gesichtsempfindungen"—Zehender's definition requires the presence in the interior of the eye of real corporeal bodies.

Subjective visual sensations, therefore, differ from objective visual sensations in the fact that the latter owe their origin to corporeal things outside of the eye; they differ from hallucinations, "visions," and the like, since the latter owe their origin to disturbances of the central nervous organism and not to changes in the eye.

Phosphenes, electric stimulant flashes, etc., belong to subjective visual sensations since they owe their origin to a disturbance of the real elements of the eye, but they ought to belong to a sub-class of visual sensations, the main class being illustrated by *muscæ volitantes*. This latter is perhaps the most typical and familiar example of subjective sensations of the main class. A further refinement ought also to be made by classifying these sensations into the classes physiologic and pathologic. And while the instrument described in this paper, and which, for want of a better name, let us call the "subjectoscope," deals with both the latter named classes, it is toward physiologic subjective visual sensations that our principal experimentation will be directed.

It may be considered necessary in this introduction to apologize for the use of instrumental aids in examining visual sensations. Zehender prides himself on the fact that under favorable conditions he can experience all the known visual subjective sensations without instrumental aid, but some of the favorable conditions are "a snow bedecked landscape," "the half waking state in the

twilight," "long and intense practice," etc., some of which conditions are always absent from some of us, and the majority of them render the daily office examinations of patients' fields of vision impracticable. Besides there is usually no gain in declining instrumental aid while viewing the field of projection. It is not any more to our credit or advantage by intense practice to train our eyes to see the Purkinje figures without aid than to look at these figures in a dark room by the aid of a moving flame held near our eyes. It was surely no detraction for Helmholtz to say that the easiest way to view *muscæ volitantes* is to look at a lamp flame through a pinhole in a card. Moreover, in studying the field of projection of patients most patients require considerable aid in viewing strange images whose cause they cannot understand, the knowledge of whose shape they would impart to the oculist.

The instrument in question was suggested to the writer on viewing a blue sky through a piece of blue glass. By such means the "fliegende mücken" (Purkinje), or rapidly moving bright globular bodies in the interior of one's own eye may be readily observed by anyone. I am not aware that any previous writer has called attention to the use of blue glass in this connection, though Jullien¹ discusses the question of recognition of fading or abortive syphilitic macules by viewing the suspected skin through blue glass, a diagnostic resource first announced by A. Broca in 1893. The instrument, however, is arranged so that other colors for the background besides that of blue may be used.

The instrument consists of a three-inch lens mounted in a short tube on a suitable stand having a clamp at the proximal end into which diaphragms having pinholes of two or three sizes may be inserted, and having, eighteen inches from the distal end, a clamp for holding plates of plain and colored glass and white cardboard, and having beyond the plate a mirror mounted on a swinging arm so arranged that the mirror may reflect light through the colored glass directly through the tube and lens to the eye, or, by swinging the arm, light may be reflected on white cardboard which may then be viewed by reflected light.

Experiment 1.—Remove the pinhole diaphragm, place the mirror in position for reflecting into the eye the blue sky through a layer of homogeneous blue glass, place the eye near enough to the lens that the light coming through the lens will be uniformly blurred or diffused. A homogeneous blue field will be disclosed, and on that blue field will be observed bright moving points globular in shape, having one side shaded by a crescentic shadow. These bodies on the blue field will look blue but will stand out in relief, the center of each having a bright reflex. They flit through the field like

flying gnats, but appear most distinct at a certain plane in the field of projection and resemble in that respect the corpuscles of the blood when seen in a frog's tongue under the microscope. That is to say, they come into focus where they are distinct and then pass down or up out of focus where they disappear. Occasionally a perfectly blank one will flit into view, and some are larger than others. Some will swim more rapidly and circle more swiftly than others do. The vessels through which they flow remain all the while invisible, though by fixing the attention in a certain direction one may seem to discover the course over which as a rule some of the bodies pass.

What are these flying gnats—"fliegende mucken"? Purkinje², who, though but a boy in poverty and obscurity, in 1819 made himself at once famous by describing these objects and also by describing the appearance of the shadow of the retinal vessels in one's own eye, saw them without instrumental aid by looking into a cloud covered sky. He was unable to satisfactorily account for them; and it appears to me that some confusion has arisen not only with Purkinje, but also with Zehender³ in confounding these bright moving bodies with the bright waving bodies mentioned at the end of this experiment. Zehender thinks these "fliegende mucken" are reflected light from the red blood-corpuscles in the choroidal vessels. He thinks that as the corpuscles move in the choroidal vessels light reflected from these bodies comes forward and falls on the rods and cones of the retina, thus forming their image. He offers in proof of this fact that these floating bodies are seen best and most numerous in the center of the field, where the rods are most numerous and where the retinal vessels are smallest in size, but a number of facts disprove his theory. One of my patients with rupture of the choroid and with no rupture of the retina was able to see these flying bodies very distinctly in the field corresponding with the rupture of the choroid. The blow against the eyeball had been received near the inner canthus. There was a rupture of the choroid, 2dd. in length, crescentic in shape, the center of its convexity touching the outer edge of the disc. The other rupture was 3dd. in length, the center of its curve being in the region of the macula. The white sclera could be seen through the rupture, and the broadest portion became occupied by cholesterin. This patient, though possessed of two scotomata of crescentic shape could see these "fliegende mucken" throughout the entire center of the field of vision, the flying bodies seeming larger and more numerous at the portion of the field occupied by the scotoma than in any other portion of the field. The scotoma looked black on the blue background, and grayish white on a dark background. These rapidly moving bodies, therefore, must be produced by something in front of the retina, and if it be urged that in such a case they should produce nothing but a dark shadow like the moon in a solar eclipse, the reply may be given that the shadows of the vessels of the retina when viewed through a projectoscope are like transparent glass tubes having a shadow line along one side, giving a relief to the shadow of the vessel, so to speak. The apparent relief of the shadow of these moving bodies may be thus accounted for, and to account for the fact that one is occasionally blacker and larger than its fellows we have only to imagine one more opaque than the others. Surely Zehender's contention cannot explain the presence of the black ones. Black ones will not reflect the light. Moreover, these flying globular bodies are too large for blood-corpuscles, and they are too widely

separated from one another to be blood-corpuscles in the retinal vessels. Their rate of flow is greater than that of the blood current in the capillaries. The diameter of a blood-corpuscle is .0072 mm., which is one-fourth the diameter of the capillaries. By viewing the smallest capillaries, as in Experiment No. 2, and comparing their diameter with the apparent diameter of the moving bodies, projecting them as nearly as possible to the same distance away, it will be seen that the apparent diameter is more than one-fourth more than the apparent diameter of the capillaries.

What are they then? Helmholtz⁴, in his "Physiological Optics," thinks they are fat lymph-corpuscles. His opinion must bear great weight, but Helmholtz thinks that these lymph-corpuscles are visible only in the main trunks of the retinal vessels. The region of the macula, which alone views these moving bodies, has no large blood-vessels in the retina.

In Experiment No. 6 an attempt is made to show the lymph-spaces in the cornea, in Experiment No. 5, the lymph-spaces in the lens, and in Experiment No. 3, the lymph-spaces in the vitreous. (Sec. 5, p. 251, and 6, Vol. i, p. 210.)

Would it not be a more reasonable assumption to say that these "fliegende mucken" are the shadows of lymph-corpuscles, as they pass in the lymph-channels of the eye in such a plane as can be best viewed by the rods and cones?

We cannot close this reference to the "fliegende mucken" without referring also to Zehender's claim that they can be viewed by him with his eyes closed and in the dark. If they could be viewed in such a case, my contention that they are the shadows of the lymph-corpuscles would come to naught. Still, if they could be seen in the dark, Zehender's contention also would come to naught, for in that case they could not be reflections of the corpuscles of the choroid. What Zehender sees in the dark with his eyes closed is not the "fliegende mucken," although they resemble closely the "fliegende mucken" in some respects. Perhaps every observant person has noticed that on waking from profound slumber and gazing into a dark room numerous small points of silver-white light arranged somewhat symmetrically, grouped in the center of his field of vision, will wave and flicker before him. They do not flit and fly, but each waves and flickers. On closing the eyelids these points will continue for a time in the same location and with the same color and shape as before. But these wav-

ing points are not globular. They have no distinct outline. They do not move about the field like detached bodies, do not flit nor fly, they simply glint and glimmer and wave. What are they? I think they are localized, intensified idioretinal light. I think they are of the nature of minute localized points of "phosphorization," to coin a term; they are produced in all probability by the pressure of blood in the choroidal vessels against the rods and cones somewhat in the manner of phosphenes produced by the finger against the eye. They appear only when the ocular vessels are suddenly and unusually engorged with blood, and disappear when the engorgement passes away.

The above-described waving points are not flimmer scotoma, scotoma scintillans, amaurosis partialis fugax, teichopsie, though this latter scotoma may be seen in the dark with the eyes closed. In the flimmer scotoma the glimmering begins in the center of vision and spreads outward like an enlarged circle, except that the line that forms the circle is zigzag and there is amaurosis over the portion of the field that the circle has passed. Moreover, flimmer scotoma seems to be more a symptom of disturbances of nutrition of the central nervous organism than of local disturbances of the eye. It is nearly always accompanied by a sense of vertigo. (See reference No. 7, p. 64.)

Experiment No. 2.—Insert the blue glass in its position as before, place the diaphragm with the small pinhole into its place, reflect the light of the sun, or an acetylene-gas flame placed twenty feet or farther away, look through the pinhole attentively and move the diaphragm gently to and fro, or move the head to and fro, or move the mirror to and fro slightly and more or less rapidly. Fine branching lines like transparent roots of a plant will be seen converging from the periphery, many of them anastomosing, meshing themselves around the center of the field of vision. In a yellow light these branching lines are pinkish-white with a bright line along their center and dark lines along their edges. On a blue background they are clearer cut and more distinct, but blue in color. They are stationary when the eye is still, though they seem to move with the movements of the disc or of the source of light. They seem larger when the source of light is at a distance, or when they are projected into the distance or when the pinhole is large. They seem smaller, though more distinct, when the pinhole is small. W. C. Ayres⁸ (Bd. xii, p. 29) who followed up Helmholtz' suggestion, found that these lines seem larger when the iris is under the influence of a mydriatic. What are these lines? They are undoubtedly shadow images of the blood-vessels of the retina. Purkinje was the first to describe them, in 1819 in this now famous thesis₂. His first described method for seeing them was to look at a cloud-bedecked sky and wave before the eyes the outstretched fingers of the hand, to and fro. To me they seem quite indistinct by this method. His second method was to wave a candle-flame near and below the eye while gazing into an otherwise darkened room. The lines look larger by this method, though they resemble mere black shadows and only the large blood-vessels can be seen in this way. Modifications of the above mentioned experiments have been made by J. Muller⁸, Ayres⁸, Fick¹⁰, Becker¹² (Bd. xxvii pp. 1 to 20; Bd. xxvii, 1881), Dimmer¹¹ (Bd. xxiii, p. 82), Meissner¹³, Reute¹⁴ (Bd. i, p. 558) and others. For instance, Helmholtz was, I believe, the first to render the definition of these lines distinct by searching for them through a small pinhole in a moving card, while looking at a lamp flame; and he was the first

to observe that the larger the pupil or hole in the card the larger the vessels would appear, though less distinct.

W. C. Ayres⁸ (Bd. xiii, p. 13) used the bright reflection from a gold ring or a silver spoon flashed near the eye; but in the author's experience the vessels can be traced more nearly to the macula and can be made to appear with more vivid distinctness by the use of the blue glass in the projectoscope.

So far as I can discover, no previous writer has mentioned the fact that these blood-vessels may be seen with the eyes closed. Face the sun, close the eyelids, turn the eyes upward, and forcibly and rapidly turn the eyes repeatedly to the right and to the left. There will appear on the red background dark branching lines that resemble the lines seen in the Purkinje candle flame experiment. The main trunks of the blood-vessels are brought into the field of projection better in this way than in the other experiments mentioned.

Experiment 3.—Remove the blue glass, focus the light to the interior of the eye, insert the pinhole disc, then without oscillating the diaphragm, direct the eye and if necessary the pinhole just off the point of light. Against the background of half illumination curved and twisted channels anastomosing can be seen. These channels lie in different layers and by slightly moving the eye to and fro then holding it still a swinging motion can be imparted to some of the different layers. By means of this movement a parallax of the different layers can be made out. One of these layers seems to me to be always stationary. They are seen only in the center of the field. Their caliber is of about equal diameter throughout. Their course and the walls of the channels are quite distinct. That they are not on the surface of the cornea is readily proven by blinking the lids until a little of the oil or tears is deposited upon the cornea, then by simply moving the diaphragm the parallax of the tears and the channels can be made out. All the channels will thus be found to lie behind the cornea or at least behind its surface.

Experiment 5.—Now focus the light on the lens of the eye, use a very small pinhole, remove the eye far enough away from the pinhole to make the pinhole appear like a star; an object will be seen very much resembling the microscopic appearance of the lens of the eye; that is to say, a star-shaped body having four or five main arms with innumerable branching lines joining the main ones will appear. This star-shaped system of lines can also be seen by looking through a very small pinhole held four or five inches from the eye. That this system of branching lines is not made by the object lens or by the refrangment of light at the edge of the pinhole can be proved by rotating the object-lens or the pinhole disc on the line of vision as an axis. The striations produced by the object lens or by the disc can be made to eclipse the striations produced by the observer's eye. What is this star-shaped system of channels? It is evidently the connective tissue structures and lymph-channels of the crystalline lens. In proof of this it may be asserted that these channels or radiating lines change their relative positions slightly under the act of accommodation in somewhat the same manner as do the double images of Purkinje⁶ (Vol. i, p. 172, figs. 43 and 44).

Experiment 6.—If in the above experiment the eye be so turned that only the front surface of the cornea be illuminated by a point of light, the very slightest opacity of the cornea will be discoverable; various dots and lines, the dots having various shapes and radiations, the lines having various radiations, can be discerned, and these dots and striations are so uniformly present

that they seem to constitute what may be termed a normal opacity of the cornea. Some of them very much resemble spots in the cornea of the frog, stained so as to show the positive picture. (See 6, Vol. i, 146.) These opaque stellate cells can be best viewed, however, by looking at a full moon through a three-inch lens held eighteen inches from the eye and then partially intercepting the rays by means of a card, or better still, a piece of blue glass. The stellate cells will be seen to push forward on the card and accumulate at its edge. Images of other bodies in the cornea and on the cornea may also be made to show themselves by that means. The spots on the moon will leave their impression on the picture, but the opacities on the cornea can be differentiated from other opacities by observing that they move when the lids move; those in the lens in the hand will stay still when the observer's eye is rotated.

All opacities of the cornea produced by facets, leucomas, infiltrations, etc., are exhibited with great distinctness by this partial oblique illumination of the cornea.

Experiment 7.—Now, turn the eye directly toward the light, focus the lens so that complete fogging will be produced by the lens, use the disc with the small pinhole and gaze intently into the flame; in the center of the field will appear three sets of round bodies. Those of the first set are closely packed together in a layer, but they are apparently not quite hexagonal in shape though somewhat flattened. In Fig. 3, taken from Zehender, an attempt has been made to represent one set of these bodies between the blood-vessels. The large round body there depicted represents, poorly, the appearance of the entrance of the optic nerve or "blind spot."

Against a kerosene flame they seem a pale yellow. Scattered among them are disc-shaped bodies that may be globular but look like red blood-corpuscles when seen under the microscope. The outside walls are dark blue. Lining the walls is a layer of a pale yellow color, then comes a dark blue line enclosing a central portion of pale yellow. These globular bodies are scattered among the flat stippled bodies mentioned above and seem nearly but not quite in a single layer. They are all of nearly the same diameter, about as wide as a medium-shaped blood-vessel. All these disc-shaped bodies are stationary and keep relatively the same position with reference to each other, although a slight parallax can be produced by movements of the eye or card. A third kind of globular body can be seen, which, however, can be made to float about more or less freely and can be seen to cause eclipse with the disc-shaped stationary bodies. What are these globular or disc-shaped bodies? The flat stippled bodies

were thought by Zehender to be the image of the pigment cells of the choroid (sic). They cannot be such. They are too large and are not of the right shape and lie in front of the retina instead of behind it, or at least in the front layers of the retina. Zehender pictures them stippled between the blood-vessels, but a careful examination will show that the stippling extends over the blood-vessels in places. The second stationary globular body can readily be seen to be just in front of the retinal vessels, for by using an extremely small pinhole these globular bodies can be seen to be really much larger than they at first appear. A ring halo can be seen far out from their center, not only spreading over the image of their blood-vessels, but by a slight movement a parallax can be developed to show that they lie just in front of the blood-vessels. The third set that move about freely can be readily demonstrated to be in the vitreous. What are these three bodies? The last-named floating bodies are doubtless portions of food floating in the vitreous and while in small quantities may be considered normal, in large quantities become the vitreous opacities. The second-named globular bodies are doubtless in the hyaline membrane and in small numbers may be considered normal, but in large numbers constitute the opacities seen in hyalitis. The stippled bodies which Zehender called the hexagonal cells of the pigment layer and pigment dust—"pigment staub"—are doubtless in the retina, possibly in one or the other of the granular layers of the retina. It seems incredible to me that "pigment staub" lying behind the rods and cones could be thus viewed.

Experiment 8.—Remove the pinhole diaphragm, remove the colored glass, insert the white card, adjust the mirror so as to throw the light on the surface of the white card, place your eye very close to the lens, gaze intently into the center of the white card and rapidly press the finger point or a lead pencil tip against the eyeball; at first dark pulsating bodies will appear scattered around the periphery of the field, four or five bodies pulsating synchronously with the pulsations of the heart. By a little practice these may be made to appear without the pressure of the finger point on the eyeball, and by still further practice branching lines from these pulsating bodies may be seen to approach one another. These must evidently be the shadows of the large blood trunks, there being in Ranvier's¹⁵ preparation of the circulation of the blood in the retina five main blood-vessels apparent in the injected specimen of the blood-vessels of the "yellow spot" (see also 6, vol. i, p. 172). By great patience and practice a mesh resembling a crown of these vessels can be discovered around the point of fixation.

It is to be remarked that neither by this method of viewing the system of blood-vessels in the retina, nor by that mentioned in Experiment No. 2, nor by the preparation of the retina for microscopic examination can any vessels be discovered at the region of the fovea. It should be remarked also that although the blood-vessels may be seen to pulsate in the manner just described, the blood current itself cannot be discovered, Meissner to the contrary notwithstanding.

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MODERN TREATMENT OF FRACTURES.*

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In this paper the subject of fracture treatment shall be limited to a consideration of the principles that apply to the treatment of fractures in general, and of the materials best adapted to their treatment in consonance with these principles.

The term "fracture" as used, implies a broken bone. A bone can be broken, the fragments regain an accurate reapposition and unite without a callus. So that a callus is not necessarily in evidence after a fracture. Manley of New York, a surgeon of vast experience with fractures, has repeatedly observed and noted this fact, termed "primary union." The *sine qua non* for primary union in a fracture is accurate reapposition of the fragments and fixation. Primary union in fracture is exceptional. It probably occurs only when there is no, or but a very temporary, displacement. Displacement in fractures is the rule. When it persists, there are the genetic factors for callus production present. The more displacement, the more these factors are called into action, and the greater the resulting callus.

From the foregoing it follows that the duty of the surgeon in attendance on a fracture case is to get the fragments into as accurate reapposition as possible, and provide an efficient and safe fixation for them. Nature does the rest.

The necessity for fixation in the treatment of fractures, strange to say, is not universally admitted. The celerity with which fractured clavicles and ribs unite, and for which fixation is ordinarily impossible, is urged by some surgeons as an argument for the non-use of fixative appliances. Broken collar-bones and ribs with displacement unite, it is true, but *always with deformity*; the surgeon uses fixative apparatus to *prevent* deformity. Some surgeons have treated fractures of the tibia, and of the radius (Colles') without apparatus. In these cases, however, there was no tendency to displacement, and, to coin a term, physiologic fixation was present. In these cases, therefore, the principle of fixation was not violated; but, in every case, let it be understood that mechanical is superior to physiologic fixation.

There is one fracture best treated without any fixative appliance; that is, fracture of the neck of the femur in the aged. Careful attention to the nursing of such patients is all-important. It is paradoxical, but true, that the best surgical treatment of this fracture is purely medical. Apparatus, other than a few sand-bags, is cruel and harmful. With the vast majority of fractures, comprising all others but those of the hip in the aged, mechanical fixation, where it can be obtained, prevents or limits deformity, hastens union, and it therefore always indicated.

In fractures involving the joints, there is not unanimity among surgeons as to the time for applying passive motion. Some surgeons claim it is injurious before the fourth week, and even later. No set time should be given. The indications of each individual case should be followed. Passive motion is employed to prevent adhesions in or about the joint. It is harmful to an inflamed joint, and therefore should be cautiously applied—not enough to increase the synovitis, and yet

sufficient to prevent adhesions. The timely and right application of passive motion is imperatively called for in the treatment of fractured joints to restore them to their functions.

While speaking of passive motion to prevent adhesions, a word about massage is in place. Massage is useful to aid in the nutrition of those parts which suffer from functional inactivity in consequence of the fracture. It is also of use in the absorption of exudation, tissue hemorrhage, etc., caused by the injury. It is useful, generally, to employ massage daily, commencing a few days after the injury. In this, however, as in the application of passive motion, the indications of each individual case should be followed.

The materials used for producing fixation are various. Plaster of Paris is considerably used for this purpose. The fixation produced by it is fallacious. While outside the limb appears as rigid as a stone wall, inside the broken bones can wobble about, because of the cotton batting between the limb and the "cast." Subsidence of swelling, and later on, tissue atrophy, contribute to the misfit. This is the cause of the deformities so frequently met with after the plaster-of-Paris treatment of fractures.

The scientific treatment of fractures to-day demands that the surgeon mould on the patient a splint made from a plastic material, and applicable next to the skin. By this method the best possible fixation is attained, and the surgeon has the limb under control; at any time he can inspect it by simply removing the retaining bandage—a matter of a moment or two. There are two plastic materials that can be so used. One is gummed felting, the other, wood-fiber splint material. With the felting, heat is the agent used to render it plastic. Water renders the wood-fiber material plastic. Wood-fiber material is preferable, because lighter, cleaner and cheaper, and in compound fracture cases it permits of powerful antiseptic treatment of the splinting.

In the treatment of fractures at one time, and that not so very long ago—it was deemed necessary by many leading surgeons to apply over the broken limb a roller bandage before the splints were applied. To do so to-day would be malpractice. What was once deemed by eminent surgeons a cardinal part in the treatment of fractures is in oblivion to-day. To-day surgeons teach the application of plaster of Paris in the treatment of fractures. It is not necessary to be a prophet, nor the son of a prophet, to foresee that the plaster-of-Paris roller will partake of the oblivion of its congener, the primary roller; and this because a more scientific method of treatment is demonstrable, and because the defects of plaster treatment are manifest. A prime defect, the insufficiency of the fixation produced, has been mentioned. Sequential to this are numberless deformities, readily found among hospital patients. Its danger as a primary dressing in many fractures causes it to be avoided in such cases. It prevents the surgeon from inspecting the fracture, and from employing massage and passive motion, which the scientific treatment of such cases now demands. These defects condemn its use by the practical, progressive surgeon. The lesser evils of its use are the discomfort to the patient on applying it, and on removing it; the discomfort of its weight; its dirtiness, necessitating in well-appointed hospitals a "plaster-room."

The only scientific way of applying plaster of Paris is in the form of splints; moulded on the limb and retained by a bandage. The writer discarded this method several years ago, because of the advantages.

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