the walls of a properly equipped laboratory” (“Prevention of Disease in Armies in the Field,” p. 149).

From my experience it is difficult to understand Major Seaman’s assertion that in the Russo-Japanese War the Japanese medical officer was “with the first screen of scouts with his microscope and chemicals testing and labelling wells, so that the army to follow shall drink no contaminated water” (“Military Hygiene,” Appendix). If the medical officer was actually in this position, thus equipped, it was sad waste of energy, as his “labels” were, in the light of modern research, not worth the paper they were written on.

In conclusion, although it is clearly fallacious to generalise from a single experience, I consider that this experiment was, on the whole, a fair test of the cart working under Service conditions, and if supported by similar results in the work of other officers, should lead us to endorse Major Faichnie’s opinion that “for the main source of supply of pure water (for military purposes) nothing seems better than the new pattern Army watercart” (“Water Supplies in Camp, on the March, and in Battle,” British Medical Journal, August 31st, 1907).

NOTES ON EYE CASES, RAWAL PINDI, INDIA.

By MAJOR T. W. GIBBARD.
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Injuries.—Case 1.—Captain P. received a blow from a racquet ball on the left eye on March 3rd, 1906. I saw him two hours afterwards; he was pale and faint, and complained of loss of sight of the left eye, in which there was severe pain. Examination showed ecchymosis of both lids of the left eye, the cornea was hazy, the anterior chamber contained blood, the iris was three-quarters dilated and oval, and did not react to accommodation or light. The lens was not dislocated. The vitreous, choroid and retina could not be examined on account of the cloudiness of the cornea and the hyphemia. He had perception of light only in this eye, but projection was good. An ice-bag was applied, and the right eye covered with a bandage. After forty-eight hours the ice was discontinued, and hot boric lotion used every two hours. In four days the hyphemia and cloudiness of the cornea had disappeared. Small hemorrhages were to be seen in the vitreous.

On March 9th he could count fingers at one metre, but the pupil was still irregular, three-quarters dilated and oval, and there was distinct circum-corneal congestion.

On March 17th the right eye was left uncovered, and a shade used for the left. Hot fomentations were stopped, and homatropine used, which fully dilated the pupil.
March 22nd.—Left iris reacted fully to eserine, but twenty-four hours afterwards the pupil was three-quarters dilated again.


March 28th.—The left iris is gradually regaining power; thirty-six hours after using eserine the pupil is only half dilated. Eserine to be used every other day.

April 5th.—Eserine stopped. The left pupil is now only slightly larger than the right, and returns to this condition after the eserine has been stopped. Retinoscopy shows no error of refraction in either eye, but +1 sphere for the left eye clears the vision for reading and has been ordered.

June 10th.—Left pupil still very slightly larger than the right. To use +5/6 sphere for left eye for reading instead of +1 sphere, which now seems too strong. Power of accommodation is returning. Vision, 9/9 each eye, and has been so since April 7th.

Patient proceeded home on leave one month later. At this time there was no difference noticeable between the two eyes, both pupils being the same size, and reacting to light. The only defect left was some difficulty in reading without a glass (+1 sp.) for the left eye.

In this case the use of eserine apparently exercised a beneficial effect in exercising the muscle of the iris by contracting the pupil and producing a spasm of accommodation by contracting the ciliary muscle.

CASE 2.—Gunner C., No. 6 Mountain Battery, was "flicked" by a mule's tail in the left eye on January 13th, 1906. Three days later the vision of this eye became "misty." He reported sick on January 26th. At this time the right eye was normal, but there was iridocyclitis of the left, and the usual treatment for such cases was adopted.

He was first seen by me on February 1st, when I found acute iridocyclitis of the left eye, and marked symptoms of sympathetic ophthalmia of the right. There was a small scar to be seen in the ciliary region of the left eye, just above and close to the margin of the cornea. At this stage it was useless removing the left eye, since it was probable that the vision of that eye would be better in the end than the right.

Vigorous treatment was adopted; leeches, atropine, &c., were used, but with little apparent benefit beyond keeping the iris of the right eye clear of the central portion of the lens.

In August, 1906, that is seven months after the injury, he had perception of light only in the left eye, and 9/18 in the right.

He was sent to England early in the troopung season; the vision of the right eye was improving slowly, and he could count fingers at one metre with the left eye.

This case serves to remind us of the serious consequences which may
follow even a trivial injury in the ciliary region, and of the importance of watching the uninjured eye in such cases.

**Case 3.**—Gunner R., No. 5 Mountain Battery, was admitted to hospital on January 27th, 1906, suffering from the effects of a blow from the fist on the right eye. The injury was received on January 24th; the man was knocked down but not rendered unconscious.

The day after the injury he noticed that if when reading he covered the left eye "everything seemed jumbled up," but that he could see fairly well in the distance.

On examination I found ecchymosis of both lids (right eye), and subconjunctival haemorrhage limited to the outer side of the cornea. The pupils were equal and active, the cornea, anterior chamber and lens normal, vitreous clear, tension normal. There was no detachment of the retina. Vision, R. 3/6, L. 6/6.

When the man was sent to my ward it was suggested that he was malingering defective vision, or, at any rate, making the most of the blow; but careful examination showed a small effusion of lymph below and slightly to the outer side of the optic disc, partly covering one of the arteries just after leaving the margin of the disc. There was also distinct cloudiness of the retina about four disc lengths from the optic nerve, and in the vicinity of the macula, due probably to oedema of the retina, and accounting for the defect of vision. Having no perimeter it was not possible to take the field of vision accurately, but it did not appear to be contracted.

Both eyes were covered with a bandage to give them perfect rest, and the pupil was kept dilated with atropine for fourteen days. There was no error of refraction. Iodide of potassium was given internally, and oleate of mercury (10 per cent.) applied daily to the right temple.

Fourteen days after the injury the left eye was left uncovered, and the right protected by a shade only. The iodide of potassium was continued.

On February 8th his vision was R. 6/12, L. 6/6, and on March 5th R. 6/6, L. 6/6. A week later he left the hospital having completely recovered, his vision for distance and reading being normal.

This was a fairly typical case of commotio retina following a concussion of the eyeball. The cloudiness of the retina had entirely disappeared seven days after the injury, but on discharge there was still to be seen a small band of lymph running over the vessels below the margin of the disc.

**Malingering.**—**Case 1.**—Private S. was transferred, 300 miles, for my opinion, on August 23rd, 1906. He stated that he saw floating bodies in front of both eyes, and that his vision was so bad that he could not see the target clearly at 500 yards. From his case sheet I gathered that his statements were so conflicting that no conclusion could be arrived at as regards his vision.
Before going into his case, I warned him that it would be useless malingering since I should have no difficulty in finding it out. On examination I found both eyes perfectly normal, and his vision with each eye was equal to 6/6. The man was sent back to duty.

**Case 2.**—Private M., Royal Munster Fusiliers, was sent to me on September 24th, 1906, with a note to the effect that it was thought he was malingering. He complained of total blindness of the left eye, that he could not distinguish light from darkness; with the right eye his vision, he stated, was equal to 6/6, but he could probably see more.

To ascertain whether he was malingering, I put him through the following tests:

(a) A lighted candle was held in front of the right eye and then carried round to the left, so that he could not possibly see it on account of the dorsum of the nose except with the left eye; he stated that he could see the candle clearly, thus proving that he could see a candle at 3 feet with the left eye. The candle was then held directly in front of him at a distance of 3 feet and the right eye covered; he stated that he could not see the candle. The right eye was then uncovered and the left covered: he stated that he could now see the candle. (b) He was told to look at his left hand with the supposed blind eye (left), the right being covered; he looked in every direction except the correct one. A blind man looks immediately in the proper direction, since he knows the position of the hand by a sense of feeling. (c) He was placed 12 feet from a wall on which was hung a black object (the lid of a narrow card-box, 8 inches by 2 inches) and a +12 prism was placed in front of the right eye, the left eye being uncovered. He stated that he saw "two" images, one above the other, when the prism was base up, and side by side when base out, showing that he was malingering. (d) Whilst standing in the same position, and looking at the same object, the left eye was covered and a prism (+12) put in front of the right eye half over the pupil, and he stated that he saw double. The left eye was then uncovered and at the same time the prism passed right over the pupil of the right eye, and he still saw double. This again showed that he could see with the left eye. (e) In the same position a +50 sphere was put in front of the left eye and spheres amounting to +26 in front of the right. He stated that he could see the black object "fairly" clearly. A +4 sphere was then added to those in front of the right eye, making +30 in all, and he saw the object "quite" clearly. (f) The coloured letter test was then tried, red and black letters being written alternately on a sheet of white paper, a red glass placed in front of the right eye and the left eye left uncovered. He read all the letters, and therefore must have read the red letters with the left eye. There was no error of refraction, and ophthalmoscopic examination showed both eyes to be normal. It was a clear case of malingering, and was reported as such.

*Diplopia.*—The two following cases of diplopia may be of interest.

**Case 1.**—Sergeant M., 1st Royal Irish Regiment, reported sick on
April 14th, 1906, stating that when he got up the previous morning he noticed that he saw double, especially when looking to the left. His age was 32 years. He had syphilis in 1898. Examination showed slight paralysis of the left external rectus and marked secondary deviation of the right internal rectus when looking at an object to the left.

With a green glass in front of the right eye and a red in front of the left the red image was seen about 1 foot to the left of the green when the candle was placed directly in front of the patient. When the candle was moved to the right the images came together, and when to the left they separated until 3 feet apart. That is, there was homonymous diplopia to the left, showing convergence, and therefore an abduction effected, viz., the left external rectus (6th nerve). There was only a slight error of refraction, the media were clear, and there were no fundus changes. He was put on potass. iodid., gr. x., with liquor hydrarg. perchlor., 3ss. t.d.s., and an inunction of oleate of mercury, 10 per cent., applied to left temple every evening.

On April 24th, i.e., after ten days, the images were only 2 inches apart when looking at the candle placed directly in front, and 1 foot apart when moved to the left. Binocular diplopia was still present.

Ten days later the muscle had completely regained its power, there was only one image even when the candle was moved to the left, the diplopia had disappeared, and the man had no more trouble.

Case 2.—Colonel X. was seen by me on December 9th, 1906, aged 49. He gave a history of having suddenly felt giddy three days previously, and of having seen double since then. The diplopia disappeared immediately one eye was covered, showing that it was binocular, and probably due to a muscular disturbance. Had had three attacks of giddiness during the last three days. There were no symptoms of tabes, or of any nerve affection. No albuminuria.

Examination revealed slight paresis of the left external rectus muscle, the images being at first 1 inch apart when the candle was held directly in front, and 2 inches apart when moved to the left. The paresis was limited to this particular muscle; no other muscles were affected. Ophthalmoscopic examination showed no changes. The eyes presented a normal appearance, pupils reacted to accommodation and light, tension normal; it was only by the use of Maddox rods that the paresis could be demonstrated.

Three days later, that is, on December 12th, the images were nearly overlapping in the first position, and ½ inch apart in the second. On December 18th the diplopia had disappeared and there was only one image in any position.

The treatment was mercury, iodide of potassium, and rest (no brain work allowed and only light exercise).

To enter into a discussion as to the cause or locality of the affection of the 6th nerve in this case would take up too much space. These two
cases of diplopia are quoted to illustrate how rapidly paresis of one of the small eye muscles may disappear.

**Errors of Refraction.**—Of the numbers of cases of errors of refraction seen by me during the year it is difficult to select any which are of special interest, but the following case of myopic astigmatism may serve to illustrate the useful work there is to be done in the Army in this branch of ophthalmology.

Corporal J., Royal Irish Regiment, a bandsman, aged 30, service fourteen years. Vision always defective, but getting worse during the past year. States that he is now unable to see the target clearly at 200 yards. His vision is so bad that, though he is one of the best men in the band, it is thought that he must be invalided, since he can only now play by ear, and cannot learn new pieces since he is unable to see the music.

Vision, R. \( \frac{6}{6} \), L. \( \frac{1}{6} \). Reads right eye d. -8 at 6 inches, left eye d. = 4 at 8 inches.

Slight myopic crescent each eye; no macular changes.

Retinoscopy under atropine:—

<table>
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<th>R.</th>
<th>(-2.75)</th>
<th>(-3.25)</th>
<th>6</th>
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<tr>
<td>L.</td>
<td>(-4)</td>
<td>(-5) sp.</td>
<td>6</td>
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These glasses were ordered for distance, and the sphere reduced by \(-1.5\) each eye for reading.

It is nearly a year since these glasses were ordered, and he tells me that they suit him splendidly, and that he will now be able to complete his twenty years' service. The glasses were paid for by the regiment.

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**AN UNUSUAL TYPE OF TETANY (?)**

**BY CAPTAIN K. H. REED.**

**Royal Army Medical Corps.**

While officiating as Civil Surgeon at Saugar, India, the following somewhat interesting case was brought to me at the main dispensary:—

The patient, a Gond boy, aged 3 to 4 years, "had been ailing for about two months, would not take his food properly, and had been getting progressively thinner; for about a month he had maintained the position described below."

On going into the verandah to see the child I found it in a crouching position on its hands and knees, the head bent backwards and marked backward flexion of the spine: in fact, a condition of opisthotonos. The