For the next few days his condition was nearly unaltered. All the paralyses remained, but the numbness gave place to a feeling of "pins and needles," especially in the feet and left hand.

April 2nd. The pain in the head was less persistent. He had a feeble grip of the left hand. There was very slight discharge from the wound. He was giddy when sitting up in bed. The wound was nearly healed.

April 5th. The sight of the right eye was now fairly good, when he could get an object in the direct line of vision; he could also hear a watch at a distance of one inch from the right ear.

From this date he began to improve steadily, the various paralyses gradually diminishing, and, for the most part, in the inverse order to that in which they had appeared.

On April 15th, he was up a little, but was rather unsteady on his legs. The grip of the left hand was much stronger. Hyperæsthesia in the frontal and temporal regions was still well marked.

April 27th. The sight was now good; he could see the second-hand of a watch at 12 or 15 inches' distance. The hearing of the right ear was almost perfect. The ocular muscles were still completely paralysed.

May 2nd. He had slight power of movement of the right eyeball, in all directions except outwards. He could raise the upper lid slightly.

May 7th. He walked the length of the ward (100 feet) in a straight line without a stick. He was discharged from hospital.

June 20th. He was seen at Armley Gaol, and was in excellent health. The grip of the left hand was natural. Ptosis was almost gone. He could read minion type at 18 inches. The ocular movements were all right, except the external rectus, which was still completely paralysed. He yet complained of slight pain in the head at a single point near the middle of the right half of the coronal suture, but said it caused him little inconvenience.

REMARKS.—1. What was the path of the bullet? and where is it now lodged? I think it must evidently have traversed the whole thickness of the anterior lobe, in a nearly vertical direction, probably invading the fissure of Sylvius also, and be now lying encysted beneath the bone at the point indicated by the pain. 2. What caused the various paralyses—laceration of the brain, or hæmorrhage? It appears to me that, had the former been the cause, the paralyses would have appeared at first and simultaneously; whereas twenty-four hours elapsed before the first symptom appeared, then one nerve after another became involved, and finally all gradually recovered in the inverse order. That these events are not explainable by encephalitis, seems to me plainly indicated by the fact that the temperature remained normal throughout during the daytime, though twice or thrice rising to 100° at night. I therefore conclude that a blood-clot gradually formed at the base of the brain, involved successively and pressed upon the second, third, fourth, sixth, and the portio mollis of the seventh, nerves; and that, as this clot was gradually absorbed, the several nerves regained their functions.

In the next place, I would observe that, in all four cases, though the shots were fired point-blank and at close quarters, the ball penetrated the skull in only three, and perforated in none. This illustrates the fact that a ball does not attain its full velocity until it has travelled some distance from the weapon.

Lastly, I would remark on the extreme rarity (according to Guthrie and Longmore) of a penetrating wound of the head with laceration of brain and lodgment of the ball resulting in recovery; whereas this happy result followed in two out of four (Nos. I and IV) of the above cases.

Knowing how great is the influence of mental condition on the progress of gunshot-wounds, one would suppose that, in warfare, where the lesion is one more or less expected and sustained in the discharge of duty, the patient would stand a better chance, than where it was the effect of a pure accident, or of a vicious or criminal act. The statistics of military practice, however, do not seem to support this theory.

PHTHISIS AMONG SOLDIERS.—At a recent meeting of the Paris Academy of Medicine, M. Lagneau, among other interesting facts, stated that phthisis is developed among soldiers housed in barracks, and disappears when the men are encamped. The same facts have been observed with regard to typhoid fever. The long military service which every Frenchman is obliged to undergo has a bad influence on both these diseases. There is a higher rate of mortality among the inferior officers who leave the army at the age of 32 or 35 than among other men of their own age. Mortality is greater among married men under 23 years of age than among single men, but after that age a higher rate of mortality is observed among bachelors.

PERFORATING GUNSHOT-WOUND OF ABDOMEN IMPLICATING KIDNEY: PROFUSE SECONDARY HÆMATURIA: RECOVERY.

By AYLMER HAYES, L.R.C.P. Ed., M.R.C.S. Eng.,
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PRIVATE H., 2nd Battalion (Queen's) West Surrey Regiment, was shot by a comrade at 10.15 P.M., in the affray of the night of July 8th, 1884, at Sabathu. The ball entered a little to the right of the umbilicus, and, passing backwards and slightly downwards, found its exit at a site corresponding to the position of the right kidney. The hæmorrhage immediately following the injury was not very profuse; but collapse was intense, and pain apparently excruciating. A grain of opium was given every hour until he was relieved of the intense pain. That night, he slept very little; he passed urine unconsciously. As he had been constipated for some days, a small enema of castor-oil was administered. Brandy and beef-tea were ordered to be given every hour to counteract collapse, but to be cautiously employed for fear of circulatory excitement and recurrence of hæmorrhage. Low milk-diet was ordered.

July 10th. He was much better; less collapsed. Severe abdominal pain occurred in paroxysms, but, in the interim, little was felt. There was no hæmorrhage. He passed—without catheterism—smoky dark-coloured urine. There was no emphysema of the wound or its neighbourhood, indicating that the intestinal canal had not been traversed by the ball. There was very little tenderness upon pressure of the abdomen. Pain was referred principally to the wound of exit and its neighbourhood. The tongue was a little coated with white fur. The opium was ordered to be continued as required.

July 11th. He was slightly jaundiced. There was no hæmorrhage nor spasmodic pain. The bowels had not been moved (except after the injection) since his admission. Pulse improved. He was ordered to have a sinapism over the liver. The brandy and beef-tea were continued, according to the state of the pulse.

July 12th. He had very little pain. There was no discharge from the wound. The urine was rather more darkly coloured, but contained neither pus nor mucus. He was more deeply jaundiced. He was ordered to take nitro-muriatic acid and taraxacum. The bowels were still confined.

July 13th. He appeared better. The urine was as before. There was very little pain, and no discharge. He was ordered to have an eight-ounce enema of castor-oil and water.

July 14th. He had less jaundice. The urine was less bloody. The enema did not act. An enema of sulphate of magnesia was ordered.

July 16th. He passed a copious solid stool. The urine was quite clear. He slept well.

July 17th. At about 5.30 P.M., he suddenly expressed a desire to micturate, and passed a large quantity of bright arterial blood *per urethram*. This recurred, and was followed by intense collapse. Brandy and beef-tea were ordered; and twenty minims of fluid extract of ergot, with fifteen grains of tannic acid suspended in mucilage, were ordered to be given every two hours until the hæmaturia should be controlled.

July 18th. This morning he was much better. Hæmaturia was very slight. He slept well. The ergot and tannic acid mixture was continued three times daily.

July 19th. His urine was chocolate-coloured; but there was no fresh hæmorrhage. The sediment in the urine was purulent. The bladder was washed out with tepid water. The aperture of entrance was almost closed. A drainage-tube was inserted from behind, through which about a drachm of healthy pus escaped. The wound was washed out with carbolic lotion (1 in 80). His pulse and general condition were so good that stimulants were withheld, and the ergot and tannic acid mixture was stopped.

July 21st. He had passed a good many clots *per urethram*. The bladder had been washed out daily with tepid water, but, as the clots passed to-day were fetid, carbolic water was employed. An opium-suppository was ordered to be used each night, to relieve pain and spasm after catheterism. The wound was healthy; temperature sub-normal. He asked for "something to eat."

July 22nd. The temperature rose to 104° Fahr. last evening, preceded by shivering. This was judged to be malarial, and the opinion was borne out by the fact that the temperature was normal again this morning. The urine was perfectly clear and transparent. He passed a copious costive stool. Six drachms of castor-oil were given. The washing out of the bladder, and medicines, were discontinued.

July 23rd. The temperature rose to 100.4° Fahr. last evening. He

was to-day ordered to have ten grains of quinine, and chicken-diet to-morrow. After this, the fever passed off, and he seemed to be doing well for some days.

July 29th. A globular fluctuating swelling was found at the wound of exit (behind). A trocar and cannula was introduced, and an ounce and a half of healthy pus evacuated. The abscess was apparently intermuscular. It was washed out with carbolised lotion, and dressed antiseptically.

July 31st. Drainage was established.

August 5th. For the last three days, his temperature had been irregular. The sinus, from the aperture of exit, extended to a point very close to the aperture of entrance; no communication, however, could be discovered by the probe; and water injected from behind did not escape in front. A drainage-tube was inserted. He was rather constipated. His urine was slightly albuminous.

August 8th. The carbolised lotion, when injected from behind, now escaped anteriorly. Temperature normal.

August 10th. The sinus was shorter, and becoming narrower at both apertures. His general health and spirits were excellent.

August 27th. The sinus having made but little progress, it was syringed out with equal parts of tincture of iodine and water. After this he made satisfactory progress, and on December 2nd was transferred as convalescent to Kasauli Station-Hospital. He completely recovered, and returned to duty, in excellent health.

REMARKS.—In the foregoing case, the following points would appear to be worthy of attention. It is remarkable that a Martini bullet, travelling at a speed practically equal to its initial velocity, should have passed directly from point to point, as described, without destroying the continuity or integrity of the intestinal canal. There were no bloody stools, no emphysema in the neighbourhood of the wound, no tenderness on pressure of the abdomen; and, after an interval of eight days from date of injury, a solid healthy stool was passed. The bullet most certainly passed in a direct line from aperture to aperture; since, apart from the fact that the Martini bullet does not pursue the erratic course frequently followed by the round ball, the probe showed, beyond all doubt, that the track of the bullet lay in a right line from the aperture of entrance to that of exit. That the kidney was perforated is equally evident, both from the position and direction of the wound, and from the occurrence of smoky urine directly after the injury, followed as this was by profuse hæmaturia at the period when secondary hæmorrhage would be expected to occur. When I state that I was, at the time of the affray, serving under Surgeon-Major Cotter, M.D., it will be readily understood that all treatment, etc., were employed in consultation with him, and that all measures adopted were either by his suggestion, or with his sanction and approval.

ON A NEW FORM OF CITRINE OINTMENT.

By BLENNERHASSETT ATTHILL, L.R.C.P.Lond., M.R.C.S.Eng.

ON referring to the new edition of the *British Pharmacopœia*, just published, it will be seen that the unguentum hydrargyri nitratis dilutum is ordered to be prepared with paraffinum molle, soft paraffin, the synonyms being petrolatum (its designation in the *Pharmacopœia* of the United States), petroleine, and unguentum paraffini. It is described as a semi-solid mixture, containing some of the softer or more fluid members of the paraffin series of hydro-carbons, usually obtained by purifying the least volatile portions of petroleum.

These characters do not, however, give us any standard of purity; and, beyond describing the melting point, we are left in ignorance as to what form of petroleum-jelly we should employ. The material purpose suggested by this innovation in the preparation of this particular ointment is clearly to obviate the destructive effects of decomposition, with its resulting rancidity, which obtained to a very objectionable extent in the old form of the dilute citrine ointment.

This hitherto has been prepared with lard, and sometimes even with an animal oil, such as neat's-foot or trotter oil; sometimes with fish oil, such as cod-liver oil—the latter serving to keep the ointment better and longer than the former, and being considered by some as more efficacious as a remedial agent. It has also been prepared with fresh butter; this also keeping fairly well.

As soon, however, as the Americans discovered the petroleum-jelly, and it was introduced into this country, it was hoped that it would supersede all these articles in the preparation and dilution of citrine ointment in particular; but utter disappointment was the inevitable result of the trial and the experiment, as rapid oxidation, decomposition, and rancidity set in, just as in the old form prepared with lard, etc.

On seeking the cause, and, after many inquiries and a few experiments, I discovered what I consider the cause of the decomposition to be. It is, in my opinion, due to the manufacture of the petroleum-jelly by some acid process, in the first place; and by the addition, as is the case of the majority of adulterated specimens coming to us from abroad, in the second place, of heterogeneous and spurious substances, such as resinous matters, perhaps honey, and probably other organic impurities, these additions giving a pretence of emolliency and consistency.

I at last hit upon an English preparation, a product of petroleum alleged to be pure, of the name of "Geoline," which I have found, after a considerable experience in its use, to be the best vehicle in the preparation of citrine ointment and oxide of zinc. I noticed recently a report on this preparation, which was as follows. "It possesses all the advantages claimed for it; under the most favourable circumstances for decomposition, we have found it to retain its purity."

These facts with regard to "geoline" I can quite endorse, after a practical experience of eighteen months in its use. I have found it in every way a perfectly efficacious and satisfactory medium in all ointments, but especially in preserving the citrine form, which is a great desideratum achieved. Not only does it blend admirably with the nitrate of mercury ointment, but it makes a stable zinc oxide ointment, which keeps for an indefinite length of time pure and good. The dilute citrine ointment, made with "geoline," keeps absolutely pure; is of a very firm consistency; pleasant in its use, having a nice jelly-like appearance; and about 75 per cent. is saved in price over lard. The melting point at which geoline liquefies is stated to be 105° Fahr., so that its consistency in ordinary use is one of its great advantages over many of the other more fluid preparations manufactured abroad, and sold in England under various fanciful names.

I am at present attempting some experiments, in mixing geoline with metallic mercury instead of lard, for unguentum hydrargyri fortius; and I further believe that, as this substance is a pure form of hydrocarbon, that, with nitric acid, it will make a more economical compound than with glycerine, either as a remedial or as an explosive agent.

THE REMOVAL OF SUPERFLUOUS HAIRS BY ELECTROLYSIS.

By GILBERT SMITH, F.R.C.S. Ed.,

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AMONG the various methods adopted for the removal of superfluous hairs, there are none so easy of performance, so painless in their operation, so certain in their destruction of the hair-papilla, and which leaves fewer traces of an operation on the surface of the skin, than electrolysis. Dr. Mechel, the oculist of the Missouri College, I believe, first introduced the operation for the treatment of trichiasis. To Drs. Hardaway of St. Louis, White of Boston, and Piffard of New York, we are indebted for the introduction and popularisation of electrolysis as a method of destroying hair.

The apparatus required for the operation consists of a galvanic battery of from ten to fifteen cells, a sponge electrode, a No. 14 needle, an electrode needle-holder, and two cord conductors, each a yard in length.

The needle, properly fixed in its holder, is connected with the negative, and the sponge with the positive, pole of the battery. The needle is carefully introduced into the follicle alongside the hair, which is used as a guide to the papilla, the moistened sponge-electrode being grasped in the patient's hand (the needle should be applied before the circuit is completed by the sponge-electrode, and the converse after the operation; that is, the sponge-electrode should be released before the needle is withdrawn, otherwise pain will be caused).

The needle is held in position from ten to thirty seconds, according to the size of the hair, until slight frothing is produced, or a wheal appears around the mouth of the follicle; the sponge-electrode is then loosened, and the needle withdrawn.

The hair should now be removed, and the ease with which it is extracted indicates the completeness of the operation. If the hair do not leave the follicle with the feeblest traction, the needle should be reintroduced one or more times. Shortly afterwards, slight redness and swelling are perceptible.

Under a strong lens, it is not difficult to introduce the needle directly into the follicle; but this is not absolutely necessary, as the requisite destruction occurs if the instrument be in its immediate