and shortcomings were few in comparison with the magnitude and odiousness of the work which had to be undertaken. The disinfecting apparatus of the Workhouse Hospital being adequate only to the patients located there, the town establishment, erected by the Corporation, was placed at the disposal of the vestry for the Kirkdale and Ashfield-street Hospitals.

RECOLLECTIONS OF WORK IN AN AMBULANCE.

By WILLIAM MAC CORMAC, F.R.C.S., Surgeon to the General Hospital, Belfast.

III.

THERE were many cases which came that day (September 2nd) under our care, of deep interest; amongst the rest, two in which I was afterwards compelled to tie the common carotid for secondary hæmorrhage.

CASE I was that of a French colonel, who had been wounded near Balan on September 1st. The ball had entered the right cheek, passed downwards through the horizontal ramus of the inferior maxilla, comminuting it extensively; and lodged deeply beneath the right sterno-mastoid muscle, where it was with great difficulty detected. On the following day, I removed it through a very deep incision along the posterior edge of the muscle, at a point level with the angle of the jaw. The ball was much altered in shape, and a piece of the lower jaw was firmly impacted in it. I thought the colonel was quite convalescent, when, on September 10th, he had a severe attack of hæmorrhage both from the mouth and from the wound made for the extraction of the ball; this was checked. He had a second attack, which was also arrested; then a third, all on the same day, and more profuse than the others, took place. At midnight, I cut down upon and tied the common carotid. No return of the bleeding took place. The ligature fell in fourteen days; I brought the colonel away with me when I left Sedan, and he is now staying in Brussels. His father, also a colonel, was shot almost in the same manner at Waterloo, and recovered, like his son, from the wound.

CASE II.—My other case, similar in many respects to that just narrated, was not so fortunate in its issue. Jacob Kieder, a Prussian, aged 22, was wounded on September 1st. The ball entered just beneath, and slightly external to, the left ala of the nose; it then ripped up the whole of the hard and soft palates in the central line, with the exception of the alveolar ridge. Three days afterwards, the bullet was extracted through a deep incision opposite the middle of the posterior border of the right sterno-mastoid. This patient made good progress until the afternoon of September 11th. He was, like the colonel, apparently convalescent, and able to walk about. On that day, very profuse bleeding took place. The blood poured down through the wound in the roof of the mouth so fast as almost to choke him; and free bleeding also occurred from the incision behind the sterno-mastoid. The difficulty was to ascertain whence the hæmorrhage came. Pressure exerted alternately on each carotid failed to afford the clue, as no decided effect was produced. There was no time to hesitate; the man was rapidly bleeding to death. I decided that, although the mouth-wound was mesial, the bullet had, in traversing the right side of the neck, probably injured some branch of the right external carotid. I tied the right common carotid, and, to my great relief, the bleeding was permanently arrested; otherwise one might have had the undesired opportunity of witnessing the effects of simultaneous ligation of both carotids; for I would have tied the opposite external carotid, had the first ligature failed to stop the bleeding. Nieder for five days progressed favourably; acute double pneumonia then set in, and he died.

CASE III.—A third case, very similar to these two, except that there was no secondary hæmorrhage, was that of an infantry soldier named Charleroi, aged 27. He was wounded on September 1st. The ball entered one inch and a half external to the left commissure of the lips, and emerged behind the middle of the right sterno-mastoid muscle. The lower jaw was fractured at its angle on the left side. This man died exhausted eight days afterwards.

CASES IV and V.—We had two singular cases in each of which a piece of shell traversed horizontally across the face, passing beneath the bridge of the nose, but leaving the bridge complete, and the nose but little altered in form. In each case, one eye was destroyed, and the lids of the other grazed; both patients were in a short time discharged convalescent. There were three other cases in which one eye was destroyed, and a remarkable example of temporary loss of vision from a shell-explosion close by, which caused no further injury.

There were several other cases of wound of the neck and face ad-

mitted on the 1st and 2nd of September, of some of which I may furnish a few details.

CASE VI.—I can only recollect one case of extensive injury to the upper maxilla. A man came in during the heat of the fighting on September 1st, with his left cheek partially torn away by a shell. The bone was a good deal comminuted, and the antrum of Highmore laid open. The soft parts were lacerated and contused throughout a length of five inches, and the greater portion of the masseter muscle was torn off. I removed all loose pieces of bone and shreds of flesh, sutured the wound, and applied carbolic dressings. I never saw this man again, nor heard of him. I believe he left the hospital after getting his wounds dressed.

CASE VII.—About the same time of the day, Captain Bera came to us with a large portion of the body of the lower maxilla carried away by a shell. Fortunately, the alveolar ridge was intact. I removed all loose portions of bone, and adjusted the soft parts. He recovered with scarcely any deformity. He was a very handsome young man, and was chiefly anxious that his good looks should be preserved to him.

CASE VIII.—An infantry soldier, named Mathie, was shot through the face the same day. The ball entered just beneath the zygoma, and rather less than an inch in front of the left ear; it then crossed the nasal fossæ, and emerged through the right cheek, fracturing the right malar bone. This man did not appear to be inconvenienced even by his wound, and soon left the hospital quite convalescent.

CASE IX is very like the rest. Bulion, 1st Zouaves, was also shot across the face. The ball entered under the left malar bone, immediately in front of the edge of the masseter muscle. It ripped up the hard palate on the left side; and then, being diverted upwards, emerged beneath the right zygomatic arch, three-quarters of an inch in front of the ear. After a fortnight's treatment, this man left the hospital convalescent.

CASE X.—Navel, 4th Regiment of Marines, was wounded by a ball which entered beneath the centre of the left zygomatic arch, and made its exit exactly at the tip of the right ear. The last molars of the upper jaw on the right side, half of the soft palate, and the uvula, were torn away. This man also recovered.

CASE XI.—Private Fays received a ball on September 1st, which entered the left cheek just in front of the masseter muscle, and emerged just over the vertebra prominens. The front of the chest was echymosed. There were no symptoms of serious injury, and in three weeks he was discharged convalescent. The wound, however, remained fistulous.

CASE XII.—Galliard, *chasseur à pied*, was struck on the 1st September by a ball which entered beneath the left eye, and, after smashing the left malar and palate bones, emerged below the right ear, to re-enter the anterior border of the trapezius. Then passing downward and backward, it made its final exit over the inferior costa of the scapula. This man quite recovered.

CASE XIII.—Antoine, 53rd Regiment of the Line, was also wounded on the 1st, *en battant la retraite*. The ball entered just to the left of the sixth cervical vertebra, and emerged through the right cheek, just in front of the insertion of the masseter muscle in the lower jaw. The wound of entrance, with its bruised and inverted edges, was much larger than the wound of exit, whose edges were as if cut and everted. For a fortnight, Antoine did well. He then took typhoid fever, and died.

CASE XIV.—This is a case almost identical, except its results, with the last. Fritz, a soldier of the 89th Regiment of the Line, was also wounded *en battant la retraite*. The ball entered a little below and to the left side of the vertebra prominens, and emerged through the middle of the left sterno-mastoid muscle. The wound of entrance was much larger than the wound of exit. He recovered without any symptom of importance.

CASE XV.—Bernard, 5th Regiment of the Line, was struck by a ball which entered one inch externally to the left commissure of the lips, fractured the left ramus of the lower jaw, and emerged through the central point of the fold where the chin joins the neck. The same ball, passing downwards, again entered just below and externally to the right sterno-clavicular articulation, and, after fracturing a couple of ribs, was cut out on a level with the nipple, but four inches externally to it. For a time, this patient did well, but he ultimately died of pleuropneumonia excited by the fractured ribs.

CASE XVI.—Renan, wounded, like most of the others, on September 1st, was a soldier of the 3rd Marines. The ball entered just below the left ala of the nose, passed through the upper lip, knocked away the two left incisors, also the canine and first bicuspid teeth, grooved deeply the dorsum of the tongue, left the cavity of the mouth by piercing the right posterior pillar of the fauces, and finally emerged behind the right sterno-mastoid muscle. This man was discharged con-

valescent in a fortnight, having suffered the very smallest amount of inconvenience possible.

These cases are chiefly remarkable on account of forming a series very similar to each other in most important particulars, and in none more than the marked smallness of the mortality, or, indeed, of any serious consequences whatever attending them. The majority recovered rapidly. This fact has been observed in other wars with regard to wounds of the face. We had, also, a very large number of wounds traversing the neck in various directions without injuring important parts. In one case only was the trachea wounded.

CASE XVII.—Farjonel was struck by a ball which entered in front of the left sterno-mastoid muscle, and emerged just above the centre of the right clavicle, wounding the trachea in its passage across the neck. During respiration, the air flowed freely out of each aperture. He made, nevertheless, a good recovery.

There must, doubtless, be many instances of wounds of the front vessels of the neck, but these die immediately, and are never carried off the field at all, while the surgeon has his hands too much occupied with living wounded to have time to examine the injuries received by the dead.

Coming a little lower down in the body, there were under our care three cases in which the clavicle was smashed by a ball, which afterwards wounded the lung. In one of these I found it necessary to excise one third of the clavicle. In a second, the ball was cut out behind, having traversed the lung with a piece of the clavicle sticking in it. These two patients died. The third recovered; in him, the ball, besides fracturing the clavicle, had passed through the infrascapular fossa of the scapula, starring it. In all these there was profuse hæmoptysis.

The longest day must come sometime to an end, and so did the 2nd September. It was only in the evening that we learnt authoritatively what our position really was. General De Wimpffen, who succeeded MacMahon in command of the army, when the latter was shot through the thigh, posted a proclamation in the town, in which he announced that he felt constrained to capitulate in order to avoid an useless massacre; that the whole army could have been destroyed, without being able to reply even to the enemy's fire; and that, further, when on the evening before he had appealed to the courage and devotion of his troops to make a sortie and cut their way out through the German lines, only two thousand men could be found to rally round his standard.

September 3rd.—It was raining heavily all night, and the unfortunate soldiers must have found it difficult to keep their fires alight. They could not have slept much, as nearly all night we heard the confused humming noise which a mass of men so crowded together is sure to make. In the morning they presented a sad and sorry plight. Outside the town we saw the German troops being paraded, and could hear distinctly the huzzas and cheering with which they received the news of their wonderful success when the king passed them in review. About nine in the morning, to the strains of splendid music, the Prussians marched into Sedan, occupying as their head-quarters the Sous-Préfecture, which the unfortunate Emperor and his staff had only left a few hours before. I was particularly struck by the fine appearance of both men and officers, and especially by their horses. They looked more as if they had just left the parade-ground in Berlin than like troops who had been for two months campaigning in the heart of an enemy's country. During the day a little episode, somewhat exciting, took place. A patrol of soldiers came up to take possession of the barracks. Chizelles and I went to the gate to meet them, on which they levelled arms at us. We explained that we had no soldiers amongst us, but only wounded, both French and German, in the barracks. Immediately on receiving our explanations they retired, expressing themselves as perfectly satisfied; and from that time forward we were in no wise interfered with by either the Prussian medical or military authorities, except in one particular, which is a matter requiring an explanation, which I will now make. For the first fortnight we had for the nursing of our patients to depend exclusively upon the service of military *infirmiers*, or nurses. Several of these men were most excellent fellows; some were quite invaluable, having received a thorough training in nursing the sick and dressing wounds at the great French Military Medical School of Val-de-Grâce. Others, again, were as bad as these were good. There is a regular service of *infirmiers* in the army, and these men are held to be inviolable, just as the sick themselves, or the surgeons are, according to the terms of the Geneva Convention, to which both French and Prussians had agreed. Under these circumstances we were made very indignant when, on two occasions, a large number of our *infirmiers* were marched off and sent prisoners to Prussia. The first abstraction took place on September 10th. We then got a fresh supply, with the assurance that these should be left to us; and again on September 15th a large proportion of them were removed, after we had had both times

all the trouble of training them, as well as they could be trained, to their work. The annoyance and inconvenience, and loss in every way, both to ourselves and to our patients, can, perhaps, be imagined, but scarcely described. Besides, it seemed a direct violation of the Geneva Convention. What, however, I did not discern till afterwards was, that only those men not regularly inscribed as *infirmiers* were removed. The staff of *infirmiers*, properly so-called, was never interfered with. This statement I make on the authority of the French officier d'Administration, M. Billotte, with whom we were associated, and whose valuable assistance on all occasions I wish to acknowledge in the strongest manner. The Prussian authorities were distinctly *dans leurs droits* in seizing upon those *quasi-infirmiers*. But their action did not on that account embarrass us the less; and when it is considered that there were twelve thousand five hundred wounded French soldiers alone accruing from the battle of Sedan, one cannot help wishing that the Prussian Commandant of Sedan might have been a little less exigent.

We received only twenty-two fresh cases that day (Sept. 3rd), and there were comparatively few out-patients to look after; but, if so, of work inside the Hospital there was no slackness. There were still several cases requiring operation, and many amputations were performed that day. It is unnecessary to go into details about them at present, further than to say that in every instance chloroform was employed; that during the operation bleeding was controlled by digital pressure—the tourniquet I never used; and that the arteries were twisted, not tied, with the exception of the first few cases. Unlimited torsion was the method employed. The amputations were performed by long anterior and shorter posterior flaps cut from without inwards, never formed by transfixion, and embracing only the skin and its subcutaneous connections, or sometimes a thin layer of muscle, but the general mass of muscles was divided by a circular cut of the knife. Wire stitches were employed to unite the edges of the flaps, leaving usually a portion unclosed to allow the easy escape of the discharges. The dressings were very simple, consisting of a few strips of lint dipped in carbolic lotion, or a turn or two of bandage to keep them in their place.

The resections of the elbow and shoulder were done through a single straight incision—in the former case behind the joint, in the latter in front, unless when the scapula was injured, and then the incision was made from behind. The knee-joint resection was made through an oval incision from the front.

CASE OF SUCCESSFUL OPERATION FOR NON-UNION AFTER RUPTURE OF THE LIGAMENTUM PATELLÆ.

By JOHN J. HILL, L.R.C.P.Ed., Government Surgeon, Lambton, New South Wales.

ON May 24th, 1869, Charles V., a miner, aged 20, whilst jumping, felt something give way over his right knee, and immediately found his leg powerless. The knee-cap was pulled upwards four or five inches from its natural position. He was at once seen by an unqualified practitioner, who bandaged the limb and kept him in bed for a few weeks. On his getting up, the leg was found to be useless. His medical attendant then advised him to sit on a table and swing the leg backwards and forwards several times a day. As this did not effect a cure, the limb was put up in starched bandages; but, as no improvement took place, he discarded the bone-setter and consulted several surgeons, who all came to the conclusion that the ligamentum patellæ had been ruptured, and had healed without adhesion between the ruptured portions, and that nothing could now be done for the improvement of the limb except the use of an artificial knee-cap. This was tried, but with very little advantage.

I was then consulted, and, on examination, found the patella about two inches above its natural position, and quite moveable laterally. The lower end of the ligament could not be detected. The patient had no power of extension in the limb, and walked with crutches, dragging the limb after him.

After due consideration, I determined, with the patient's permission, to cut down on the two ends, scarify them, and then bring them together and endeavour to procure adhesion. Accordingly, on August 28th, I made a longitudinal incision, about two inches long, over the knee. I found that the rupture had occurred just at the juncture of the ligament with the lower edge of the patella, and that there was a quantity of adipose tissue intervening and separating the two surfaces. I scarified the ligament, and scraped and notched the edge of the patella; and, having placed the limb on a grooved straight splint running from the heel to the buttock, suspended the lower end in an