famous one which must ever be remembered in a Clinical Society, that the two special objects of medicine are to *do good or to do no harm*. The latter alternative has, from Galen downwards, been thought a matter of too easy attainment; but doing no harm is not always an easy virtue in medicine. I desire, on this point, to call the attention of the members of this Society to the present state of our practice in regard to many chronic and acute diseases, that we may by improved records learn what is the value of positive treatment in many of them. As to the doing good by the administration of remedies, which is the more popular view of therapeutics, I need not say a word to stimulate exertion in this direction. We are all impressed with the importance of the subject; but it is to be urged that the cases which shall be brought forward to illustrate any treatment, or the effects of any particular drug, shall be so selected as to lead, as far as possible, to positive conclusions.

Gentlemen, I fear I have detained you too long; yet I cannot forbear expressing a feeling which I am sure is in every mind at this moment—that we ought to be thankful we are enjoying the blessings of peace, which enable us to meet on these occasions to encourage each other in the pursuit of knowledge, which we hope may contribute to the welfare and happiness of mankind. I earnestly trust these blessings may ever be continued to us. The sure foundation of such a hope must ever lie in the fulfilment of that sentiment of one of our greatest heroes: “England expects every man to do his duty”—in the arts of peace as well as in the circumstance of war.

RECOLLECTIONS OF WORK IN AN AMBULANCE.

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

VIII.

SEPTEMBER 13th.—Some short extracts from my diary of this date may not be uninteresting. I find it mentioned in this day's report that, after a busy morning's work, I walked out to see Dr. Frank at Balan, where I assisted him to disarticulate an arm at the shoulder-joint, and Mr. Blewitt to amputate a thigh. I also performed an amputation of the thigh myself. When I returned to Asfeld in the afternoon, I found a poor fellow who had been sent about from one ambulance to another since September 1st, having been wounded in the thigh on that day; and I performed amputation of the thigh in his case also. I find that 19,500 cigars were daily requisitioned from the inhabitants for the troops, and other things in proportion.

Sept. 14th. There were more operations to be performed again to-day, as indeed there were every day. Twelve o'clock was the hour upon which we had now fixed as the time for performing such operations as were required. At first they used to be done at all hours—indeed, as it were, all day long; but, for several reasons, it was convenient to fix upon a particular time as soon as we were able to do so. To-day I had occasion to excise two shoulder-joints and one elbow-joint, to amputate the thigh, and to perform excision of the knee-joint, the only instance in which I performed that operation. It proved fatal, just as, I believe, have all the resections of this joint during the present war.

Sept. 15th. I excised an elbow-joint, and amputated the thigh for a gun-shot smash of the femur. My thigh-amputation of the 13th at Balan proved fatal to-day. My first case of amputation at the hip-joint died also to-day, having survived the operation only four days. The femoral artery had been twisted. There was no hæmorrhage. I suppose this is perhaps the largest arterial trunk to which torsion has been ever applied.

We were all put on the alert to-day by the circumstance of double sentries being posted all round the ramparts. The drawbridge, which we had to cross on entering the hospital precinct, was raised in the evening; and some of our staff were shut out that night, as, not being aware of the change, they had remained till rather late in the evening in town. The alert was a false one. Bazaine was reported to have made that sortie from Metz which, in point of fact, he never did make, although opinions may differ as to the possibility of his having been able or willing to do so. From this time forth we were in a certain sort of prisoners on parole. The sentries at the gate allowed the members of the staff to pass in and out during the day; but no one else, without special permission, could pass; and at night we were shut in as securely as in any fortress.

An incident, very unpleasant, and which might have been attended with the most serious consequences, occurred about this time. One of the junior members of the staff, who had recently joined, went out one morning in the dusk to forage for trophies. He passed into the deep wide ditch outside the ramparts by a covered way beneath them. He had not pursued his innocent avocations very long until the hail of the German sentry from one of the ramparts above recalled him to a sense of the situation. The unfortunate young fellow knew not a word of German, and but little more of French. Not much time, however, was lost in words or attempted explanations. The German soldier did not understand the nature of the appeal made to him, so he solved his difficulties by firing. The dusk and a not unnatural acceleration of his pace saved our young friend, who got round the sheltering corner of a bastion, and gained the covered way again in safety. It is perhaps unnecessary to add that this gentleman was very careful in future not to venture out much after dark. Of course we remonstrated about this rather summary treatment, and were told that the sentries had orders to fire at once on any one found straying out after nine in the evening, who could not give the countersign, or otherwise account for himself. The difficult circumstance about times such as these is, that a mistake, once made, is impossible to rectify.

Sept. 16th. To-day I tied the subclavian artery on the right side, for secondary hæmorrhage after amputation of the arm. The bleeding was stopped, but the poor fellow ten days afterwards died pyæmic.

CASE XLVI.—Louis Dessoyes, *maréchal du logis*, 2nd Artillery, was wounded on September 1st. His arm was amputated in the upper third on September 3rd, in the Eglise St. Charles of Sedan; and he was transferred to our care on September 9th. He was doing well until September 17th, when serious secondary hæmorrhage occurred, and we were obliged to tie the subclavian artery. I cut down upon its third stage in the usual way; and the artery was then occluded by twisting a loop of silver wire round it, instead of tying a piece of silk. Dr. Sims applied the silver wire with the dexterity and address which characterise all his operative procedures. The wound in the neck never gave any trouble. It healed up very kindly, and for some time we thought all would go well with our patient. By the 25th, symptoms of well marked pyæmia had become fully developed; on the 26th he was delirious; and on the 27th he died. We found, at the *post mortem* examination, abscesses in the left knee, left shoulder, right shoulder, and between the layers of the abdominal muscles. No internal abscess was discovered. The artery at the seat of ligature was carefully examined. A large firm clot occupied the vessel throughout the second stage up to the seat of ligature. In the distal portion of the vessel, hardly any clot was found. Had further hæmorrhage occurred in this case, it would have come, as usual, entirely from the distal extremity.

Sept. 20th. Six thousand five hundred of the wounded of the battles of August 31st and September 1st, which amounted on the French side alone to twelve thousand five hundred men, had up to this date been “evacuated” on Mezières, for distribution thence to different parts of France and Germany. These men were sent either to France or Germany, according to the category in which they had been arranged by the medical officers. Those certified as slightly wounded, and able to serve again in a month, were sent to Germany as ordinary prisoners of war. Those, however, who were classed as being gravely wounded, and, though capable of being transported, unable to serve their country for a space of three months, were allowed to return to their French homes without restriction. Doubtless, at this time, just after the disastrous capitulation of Sedan, the German generals did not anticipate a prolongation of the campaign for so long a period as the subsequent events have shown. The system of speedy “evacuations”, so thoroughly carried out by the German authorities by means of their admirable *Elappen* system, offers many advantages, by disencumbering the neighbourhoods of great battle-fields of the enormous masses of wounded which the gigantic scale on which some modern battles have been fought too surely produces. There are, however, the counter-vailing cases of individual hardship and death caused by the transport of men weakened by injury and disease through long distances, more especially when these have to be travelled during inclement weather.

The next few days were varied by visiting Balan and Bazeilles, where our detached ambulances were; assisting Drs. Frank and Blewitt to do some operations; inspecting some of their interesting cases; and in paying a visit to Bouillon, in the hope of getting there letters and newspapers.

And now to continue, after this digression, the account of our wounded at Asfeld: I find that in all we had under treatment 229 cases of injury of the lower extremity, of which 51 terminated fatally. The following table gives an analysis of these cases, and of the operations that were performed on account of the injuries received.

Table of Injuries.

	Cases.	Deaths.
Penetrating Wound of Hip-joint	1	1
Penetrating Wounds of the Knee-joint	12	9
Penetrating Wounds of the Ankle-joint	3	2
Wounds around the Knee-joint, not penetrating the Articulation	17	1
Wound around the Ankle-joint, not penetrating the Articulations	5	—
Gun-shot Wounds of the Thigh and Buttock, without Fracture of Bone	75	9
Gun-shot Wounds of the Leg, without Fracture	31	—
Gun-shot Injuries of the Foot	27	3
Gun-shot Fracture of Femur	20	12
Gunshot Fracture of Tibia or Fibula	34	14
Simple Fracture of Leg	4	—
	229	51

Table of Operations.

	OPERATIONS.			DEATHS.		
	Prim.	Sec.	Total.	Prim.	Sec.	Total.
Disarticulation of the Hip-joint	—	2	2	—	2	2
Disarticulation of the Knee-joint	—	3	3	—	3	3
Syme's Amputation	—	1	1	—	1	1
Resection of Knee-joint	—	1	1	—	—	—
Amputation of the Thigh	6	8	14	4	6	10
Amputation of the Leg	17	2	19	9	1	10
Partial Amputation of the Foot	7	—	7	—	—	—
	30	17	47	13	13	26

These tables point to some interesting conclusions. The great mortality of wounds of the knee is only too apparent, nine out of twelve dying. In but one case, because it appeared very suitable, did I attempt resection. A speedily fatal result ensued. Of no rule in military practice can there be less doubt, I think, than that immediate amputation should always be practised in gun-shot wounds of the knee clearly implicating the articulation. When amputation has, however, been delayed through any cause, the efforts of nature should generally be allowed free scope, since secondary amputations of the thigh are exceedingly fatal. Cases where the knee-joint is really opened require to be discriminated from those in which a ball, deflected by the strong fibrous capsule of the articulation, passes more or less completely round it without penetration. We had seventeen such instances, one only of which proved fatal. Of our twenty cases of gun-shot fracture of the femur, twelve died. Those which were not amputated were treated by the application of the long splint to steady the limb, and extension by means of a weight attached to the foot; the weight of the body, and its friction against the bed, affording sufficient counter-extending power. In a few cases, there ensued very considerable deformity and shortening; but in some, on the other hand, the result was as good as good could be.

CASE XLVII affords an example of what I have just stated. Captain Thouvenel, 80th Regiment Infantry, was wounded on September 1st by a ball, which entered on the inner side of the right thigh, close to the perinæum, and, after traversing the femur just beneath the lesser trochanter, emerged on the outer side of the thigh. There were, when first examined, two inches of shortening and great deformity. The fracture must have been almost a transverse one; for the bone, after considerable extending force had been applied, went into its place with a jerk, and there remained. He recovered without a bad symptom; and the most accurate measurements failed, six weeks afterwards, to detect any appreciable amount of shortening. A result such as this is sufficiently rare after any form of fractured femur, and is even considered by some surgeons as all but impossible.

CASE XLVIII—Edouard Grundler, 2nd Infantry of the Marine, had his right thigh fractured by a ball in the upper third. He recovered perfectly with about two inches of shortening.

CASE XLIX.—Louis Denoyer, 37th Line, had his right thigh fractured in the upper third. The shortening in this case amounted to one inch and a half. I have heard that he has gone home to his friends quite convalescent.

CASE L.—Jean Goutard sustained a fracture high up in the left thigh. There were great comminution, distortion, and tardy consolidation of the fracture. He was slowly improving when I last heard of him.

In somewhat strong contrast to our experience is that of Stromeier in his ambulance at Floing, close by Sedan, where a good deal of hard fighting took place. He treated there thirty-four fractures of the femur; and in twenty-four there was a prospect of cure; four were

doubtful cases, and only six died. His table of results in fractures of the leg is also very satisfactory. Out of thirty-one fractures of tibia or fibula, or both, caused by gun-shot injury, only three died, while the result was doubtful in six instances. Out of thirty-four similar cases at Asfeld, of fractures of the leg, so many as fourteen perished.

The mortality after operations in the lower limb was very great at Asfeld. I may say almost those only recovered in which the operation was performed immediately after the receipt of injury. Our secondary operations nearly all perished. Previous privation, the exhausting influences of the wound itself, added to the unhealthy condition of the hospital at the time when these operations had to be performed, made it difficult for a single one to escape. 57.4 of all the cases of operations in the lower extremity died. In contrast to this, also, Stromeier's table, as may be seen, shows a marked difference.

FIELD-HOSPITAL OF STAFF-SURGEON-GENERAL STROMEIER.

Condition of the Sick at Floing, 24th and 26th September, 1870.
121 patients—64 German, 57 French.

	Total.	Prospect of cure.	Doubt. ful.	Deaths.
Fractures of the Skull	2	2	—	—
Face-wounds	1	1	—	—
Penetrating Chest-wounds	14	7	7	—
Contusion of the Crown	1	1	—	—
Fracture of the Crown	3	—	2	1
Wounds of Small Intestine	1	—	1	—
Wounds of Liver	1	1	—	—
Wounds of Soft Parts of Pelvis	1	1	—	—
Wounds of Bladder	1	—	1	—
Wounds of Soft Parts of Shoulder	2	2	—	—
Wounds of Soft Parts of Upper Arm	1	1	—	—
Fracture of Collar-bone	1	—	1	—
Fractures of Upper Arm	3	3	—	—
Wounds of Elbow-joint	2	2	—	—
Fractures of Fore-arm	1	1	—	—
Wounds of Hip	2	2	—	—
Wounds of Soft Parts around Femur	5	5	—	—
Fractures of the Femur	34	24	—	—
Fracture of Femur and Tibia	1	1	4	6
Fracture into Knee-joint	7	3	1	3
Injury to the Sciatic Nerve	1	1	—	—
Wounds of the Soft Parts of the Leg	1	—	1	—
Fractured Leg	7	6	1	—
Fracture of both Bones of Leg	18	11	4	3
Fracture of Tibia	5	3	2	—
Fracture of Fibula	1	1	—	—
Fracture of Tibio-tarsal Joint	2	2	—	—
Foot-Wound	1	1	—	—
	121	82	26	13

Operations.

1. Ligation of Femoral Artery	2	—	1	1
2. Extraction of Large Splinters of Shell	6	3	1	2
3. Resection of Elbow-joint	1	1	—	—
Resection of portions of Femur	1	—	—	1
Resection of portions of Tibia	2	1	—	1
4. Amputations.—Primary	10	9	1	—
Double	1	—	—	1
Secondary	14	8	4	2
5. Disarticulation of the Hip-joint	1	—	1	—
	—	—	—	—
Total	38	22	8	8

On September 1st, there were 1200 wounded in Floing. On September 5th, the sick numbered 635 patients: 300 German and 335 French. Twenty primary amputations had so far been performed.

I have published these statistics here, having been given them by the veteran surgeon himself, on the occasion of a visit to him, both on account of their intrinsic interest, and because they serve as a means of comparison with my own tables. I have little doubt that much of the difference in the results may be explained by the circumstance that most of the patients at the ambulance of Floing were treated practically in the open air. A number of temporary houses or huts, constructed of *shingles* or rough boards, were arranged on the lawn of a chateau near the village. There were no windows in these, but the sides opened all the way along by means of large *louvre*s; and, when these were all raised, the entire circumference of the hut was open. There was a door at each

end, a stove in the centre, and ten extempore wooden beds along each side. These *Baraken*, as they are termed, form an admirable *Feld-Lazareth*. They are only suitable, or intended, for temporary occupation; but for such a purpose are, I think, very suitable, and much better than tents, which are liable to numerous inconveniences. Stromeier had a large staff of surgeons and assistants under him; and his duties as *Generalstabsarzt* did not confine him to one ambulance. The great civil surgeons who hold the highest posts in the German armies visit the different field-ambulances at fixed times, when there are regular consultations with the surgeons attached to them on all cases of importance; and at these visits the operations are performed, which are decided upon after consultation as being needful. There can be little doubt that the advantages of such a system, both to the army medical officers themselves and to the patients under their charge, in having the counsel and assistance, at all times and in all cases of difficulty, of the most matured surgical advice in the country, are very great. There is no undue interference, however; and I have not heard that any jealousies are excited, or that the system does not work to the great benefit of all concerned. Certainly, in the case of Stromeier, who is beloved and respected by all who come into contact with him, nothing could be more harmonious than the relations which subsisted. On the occasion of my visit to him, he insisted on my performing an amputation of the thigh, which was required for an injury to the knee. We had afterwards a long conversation together, in the course of which he asked me if I had arrived at his opinion that the practice of military surgery was unsatisfactory in the extreme. He said he was now passing through his third campaign; and that the longer he lived, the more deeply was he alive to the seemingly unavoidable evils which attend the practice of surgery during war.

CASES OF FRACTURE OF THE BASE OF THE SKULL: WITH REMARKS.*

By C. E. PRIOR, M.D., Bedford.

IN these cases I have no novelty of treatment to advocate, or theory of interest to propound; I wish simply to set before you a plain unvarnished history of several cases of an injury not very infrequent. A history of this sort, collected from a rather extensive field, may serve to qualify some important points of diagnosis, and may lend accuracy to the prognosis of one of the most formidable accidents to which the human frame is liable. My cases are collected partly from my own experience as a coroner, some from my own practice, some communicated by my friends Mr. Thurnall and Mr. Johnson, both of Bedford.

CASE I.—Fracture of the Anterior Fossa from Blows with Fists: Death within Six Hours: Post Mortem Examination.—In May 1863, about 11 P.M., a gentleman and lady, who had been spending the evening with friends, were returning home through the back streets of Bedford, when the former was insulted by two ruffians who had been "on the spree." On his attempting to defend himself, he was struck violently on the face by both, and knocked down. He rose with difficulty, and was followed by them for some distance, when the assault was renewed with at least equal violence, and he was knocked down again. He lost much blood at both places. Being at length at liberty to proceed, he went to the residence of the chief constable of the county, and endeavoured to ring the bell; but his wife said she thought he would have died on the doorstep. Soon after this, he reached home; and a medical man was summoned, on whose arrival, however, he seemed better. Hæmorrhage had nearly ceased; and he went to bed. Internal hæmorrhage probably took place soon after this, and he died rather suddenly about 4 A.M.

The *post mortem* examination showed a slight wound below the left eye; contusions of the forehead and nose, and under the eyes; fracture of both nasal bones, and clotted blood in the nostrils, and bruises on various parts of the body. There was extravasation of blood between the pericranium and frontal bone above each orbit; a clot of about four ounces was effused over the occipital bone, and about two drachms between the arachnoid and pia mater. There was also effusion on raising the calvarium; and a zigzag fracture of about an inch and a half long extended across the left orbital plate of the frontal bone, with some depression.

CASE II.—Fracture of Middle Fossa (Pars Petrosa) from a Fall on the Vertex: Death in Three Days: Post Mortem Examination.—A boy, aged 9, fell from a tree in a village four miles from Bedford.

When taken up, he was bleeding in a stream from the left ear, and there was a compound fracture of the left thigh. When found, he requested that he might be laid down. He was taken to the Bedford Infirmary. He was sensible on his arrival there, and continued so for some hours; then the pupils dilated, and a copious colourless fluid escaped from the ear. He remained insensible until his death, three days after the injury. On *post mortem* examination, a fracture was found extending through the petrous part of the temporal bone, and upwards through the squamous part; the brain was much congested, and suppuration had commenced immediately over the fracture.

CASE III.—Fracture of Middle Fossa (Pars Petrosa) from a violent Blow on the Head: Recovery.—J. S., an engine-driver on the London and North Western Railway, left his post at the engine at some part of the line between Bletchley and Bedford, and, crossing over the top of the carriages, arrived at one in which there were some persons that curiosity induced him to watch. It is supposed that, while he was leaning his head over the side of the carriage to look into the window, his head came into contact with the brick-work in passing under one of the railway bridges. On the arrival of the train at Bedford, the man was found on the top of the carriage quite insensible; he was at once taken to the Infirmary in an unconscious state; his head was then shaved, and he was placed in bed. No fracture of the upper part of the skull could be detected. Blood escaped copiously from one ear, and this was followed by an escape of a considerable quantity of cerebro-spinal fluid. He remained insensible for a fortnight; breathing was stertorous for the first few days. About the fifth day after the accident he had three or four epileptic fits. About the fourteenth day, he became slightly conscious, and from that day gradually mended; and a deafness from which he had at first suffered was ultimately lost. He left perfectly well at the end of three months, and from that time to the present has suffered from no head-symptoms of any kind. He follows his old occupation as an engine-driver. The treatment was of the ordinary kind; cold to the head, counterirritants and warmth to the feet, and mercury to slightly affect the gums.

CASE IV.—Fracture of Middle Fossa (Pars Petrosa) from a Fall on the Vertex: Recovery.—A boy, aged 12, subject to epilepsy, was in a tree getting birds' nests, and is supposed to have fallen from the tree with his head downwards, in one of his fits. He was brought to the Bedford Infirmary unconscious, and suffering loss of blood from the ear; the blood was followed by clear fluid, which continued to escape for some days in largish quantity. After remaining unconscious for several days, he began slowly to regain his senses, and continued to improve until he left the hospital. I believe his recovery to have been perfect and permanent.

CASE V.—Fracture of Middle Fossa (Pars Petrosa) from Fall on Vertex: Death after Three Days.—T. W., aged 29, was engaged in painting a portion of the Bedford Union Workhouse. He had occasion to ascend a ladder to a height of forty-five feet; the ladder broke at about twenty-five feet from the ground, and he fell, striking a high wall as he came down, which turned him so that he fell with the upper part of the head on a brick pavement. I found him, on my arrival, bleeding from a wound above the right eye, and from the ears. He was in a state of collapse, and quite insensible. On the next day, a discharge of clear fluid came on from the left ear, which was very profuse, as much as an ounce to an ounce and a half passing in an hour; nevertheless, he appeared a little better, and was able slightly to recognise persons; but he afterwards gradually sank, and died three days and a half after the accident. No fracture of the upper part of the skull could be detected.

CASE VI.—Fracture of Middle Fossa (Pars Petrosa) from a Fall on the Head: Recovery.—W. P., aged 55, labourer, was knocked down in a fight at Sharnbrook on June 4th. He said that his head went on to the pavement with a bump, and rebounded. He was admitted into the Bedford Union Workhouse on June 7th, bleeding from the left ear, confused, and suffering great pain in the head; pulse 84. There was great deafness; but this, he said, had already been the case. The treatment consisted of cold to the head and calomel with aperients. A discharge of clear fluid from the ear came on June 8th; a dessert-spoonful passed in twenty minutes, probably, therefore, several ounces in twenty-four hours. He was removed to the Infirmary on June 9th: after his admission there the discharge of fluid gradually abated, and he slowly and partially recovered. He was readmitted into the Workhouse on July 2nd, still very deaf, and complaining of giddiness and pain in the head. He left the house on July 19th in that condition; and after some days he returned, not much better.

CASE VIII.—Fracture of Middle Fossa and Pars Petrosa by a Fall on the Vertex: Death in Four Days.—J. G., aged 33, was thrown out of a runaway cart, and fell on his head. While he was in this position, an

* Read before the South Midland Branch.