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The British Medical Arrangements during the Waterloo Campaign.

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THE news that Napoleon had escaped from Elba, landed in France, and, with a rapidly increasing army, was marching on Paris, caused all Europe to spring to arms. The armies of the allied nations collected and threatened the invasion of France by all her frontiers. When Napoleon reached Paris he found an armed force ready to join him of about 224,000 men, which would enable him to take the field with an effective of about 155,000 [1]. He knew that his enemies could not rapidly combine against him, that the Russians and Austrians would not be ready to take the field before August. His only chance was to attack the enemy armies and defeat them in detail. His nearest opponents were the Anglo-Allied troops in Belgium, and the Prussian army based on Cologne. It was obviously necessary to deal with these first, and, if possible, by surprise. He provisioned and garrisoned the French fortresses on the Belgian border, and behind these, concentrated his army on the line Maubeuge to Philippeville, within fifteen to twenty miles of Charleroi and the Prussians [2].

Let us now consider the state of the British army under Wellington. At the end of the Peninsular War he commanded a highly efficient army, but, in 1815, this army had already been broken up. Many veteran battalions had been sent to take part in the war in America. The army had been reduced. Some infantry second battalions had been disbanded, and the remaining battalions and the cavalry regiments cut down to a peace strength. The axe was also applied to the medical department. Most of the medical staff of the hospitals were placed on the retired list, or on half-pay, while battalions lost their second assistant surgeons. The Ordnance Medical Department was also reduced.

To replenish the ranks of the regiments the militia was drawn upon, and many militiamen fought at Waterloo, still wearing militia uniform. Only the Guards and the 52nd Regiment were at full strength. Only four battalions were over 700 strong, many were under 600, and some under 400 [3]. Wellington's army therefore included a very large number of inexperienced and insufficiently trained soldiers, but they were stiffened by many veterans and the Peninsular spirit infused their ranks. Wellington's description of his army in a letter before the battle was: "I have got an infamous army, very weak and ill-equipped, and a very inexperienced staff" [4].

By June, 1815, Wellington's army numbered about 106,000, of whom 14,000 were cavalry, with 196 guns. Of these, 12,000 were garrisoning various places. About 34,000 were British, the rest being made up of the King's German Legion, Hanoverians, Brunswickers, Dutch and Belgians [5]. The 1st corps, under the Prince of Orange, had headquarters at Braine-le-Comte, a second corps, under Lord Hill, had headquarters at Ath, while a strong body of reserve troops were round Brussels, under Wellington. The cavalry were round Ninove and Grammont. This army watched the frontier from Nieuport and Ypres to Binche, just west of Charleroi [6].

The British had two lines of communication with England, one by Antwerp and the Scheldt, the other by Ostend, with water communication by canal as far as Ghent, which facilitated the carriage of supplies.

On Wellington's left, that is to the east, the Prussian army of 117,000 men, of whom 12,000 were cavalry, with 312 guns, guarded the rest of the Belgian frontier. Its headquarters were at Namur, and its line of communication ran through Liège to Maestricht and Cologne [7].

Sir Andrew Halliday, then a Surgeon to the Forces, who wrote an account of the campaign, says that Wellington's force was so placed that it could concentrate at any spot in the sphere of operations in twelve hours [8]. James says the Prussians could assemble at headquarters in twelve hours, or the whole army at any spot in twenty-four hours.

Such was the position before active hostilities began.

Let us now, for a time, leave the scene of operations and consider the British Army Medical organization of that date, and try to form some idea of how it was used in time of war. There were no Field Service Regulations in those days so our knowledge must be gathered from scattered sources, from army lists, warrants, and casual references in military and medical writings of the time [9].

In 1815, the medical services of the British Army consisted of (1) an Army Medical Department, (2) an Ordnance Medical Department, and (3) a separate establishment for the Household Troops.

The Army Medical Department consisted of some directing or administrative officers, the hospital or medical staff, and the regimental medical organizations.

During the Peninsular War, until the Walcheren campaign, the Army Medical Department was directed by a medical board consisting of the Surgeon-general, the Physician-general, and the Inspector of Hospitals. As a result of the ineptitude shown by the board in connexion with the disastrous Walcheren campaign, the board was abolished, and, in 1810, a Director-general appointed, with two principal inspectors as his assistants. John Weir was the first Director-general and held the appointment until June, 1815. Three days before Waterloo, Sir James McGrigor, who had been principal medical officer in the latter part of the Peninsular War, became Director-general, with one Principal Inspector, Sir William Franklin, as assistant. The two sat "for nearly twenty years at the same table" (McGrigor). Their office, at the time of Waterloo, was in Upper Brook Street and not at the War Office. McGrigor, perhaps the greatest of our Directors-general, had little to do with the medical arrangements at Waterloo, until after the battle. The other administrative officers were the Inspectors of Hospitals and the Deputy Inspectors of Hospitals.

The general hospitals, of which there were only five or six in England were run by a separate medical establishment, consisting of physicians, staff'

surgeons, hospital assistants, purveyors, deputy purveyors, apothecaries, hospital mates and dispensers. All were commissioned officers, except the mates and dispensers. *Purveyors and deputy purveyors* had charge of the provisioning of the hospitals and kept the hospital accounts. Originally, they were better paid than staff- and regimental-surgeons and were selected from their ranks, but at the time of Waterloo they were no longer medical officers, but appointed from persons versed in accounts.

Hospital assistants were the junior physicians and surgeons in the hospitals. They had formerly been called hospital mates for general service and were commissioned. Another class of hospital mates still existed at the time of Waterloo, but these were warrant officers only and may be regarded as probationary medical officers expected "to improve themselves towards a due qualification for admission as commissioned officers" (War Office Circular). Later on, hospital assistants were designated staff assistant surgeons. *Apothecaries* were medical men selected from the assistant surgeons and hospital mates. Many were promoted to the rank of physician. They appear to have acted chiefly as clinical clerks to the physicians. *Staff surgeons* were surgeons, not belonging to regiments, who were employed on the staff of a general in the field, or in a hospital, or garrison. They were usually promoted from the ranks of hospital assistant, apothecary, and regimental surgeon. *Physicians* were the *élite* of the medical profession in the army. They were required to hold either an Oxford or Cambridge degree and to be Licentiates or Fellows of the London College of Physicians. Later, the degrees of any University in Great Britain or Ireland were acknowledged as qualifications. For a long time most of the physicians were appointed directly from the ranks of the civilian medical profession. As they were better paid than regimental and staff surgeons, who had difficulty in attaining the rank, much discontent arose. In 1811, it was directed that physicians were to be chosen from regimental and staff surgeons who possessed university degrees.

Officers of hospitals were designated as "to the forces," thus, "physician to the forces," "surgeon to the forces," "hospital assistant to the forces," "apothecary to the forces." This arose from the fact that they were originally appointed to forces in the field. When the war was over they were placed on half-pay, being called up again, if required, when a fresh war broke out. Sufficient of them were retained in peace time to officer the few general hospitals at home. Thus, in 1807, there were only seventeen physicians, and all but two were on foreign service. In the same year there were sixty surgeons to the forces, and all but seven were overseas.

The regimental medical personnel was distinct from the medical staff. Originally each cavalry regiment and infantry battalion had a surgeon; later, there was added a surgeon's mate. The surgeon held the King's commission, but the surgeon's mate, who was often a fully qualified medical man, was a warrant officer. Surgeons were usually promoted from the ranks of surgeons' mates. When the war with France broke out many regimental surgeons' mates left the regiments and went to the newly-formed hospitals as hospital mates where their pay was higher and their position better. The difficulty in obtaining regimental mates was so great that in 1796, by Royal Warrant, their title was changed to assistant surgeon, they became commissioned officers and were given better pay. As a result of war experience an extra assistant surgeon was appointed to each battalion of over 500 men. So at Waterloo we find most battalions of infantry and each cavalry regiment had a surgeon and two assistant surgeons. It may be mentioned here that medical

officers at this time held only relative rank and had no disciplinary powers over either the attendants in hospital or over their patients [9].

Wherever a regiment went, in peace or war, a regimental hospital was opened for treatment of the sick and wounded of the regiment. Barracks had small regimental hospitals. On the line of march, at the halts, a house would be commandeered by the surgeon and converted into a hospital. Sir James McGrigor describes [10] the procedure during the Peninsular War, as follows:

"The divisions of the army, composed of from eight to fifteen or sixteen regiments, under the command of a lieutenant-general, were each of them under the medical superintendence of an inspectorial officer" [Guthrie tells us this was usually a deputy inspector of hospitals], "to whom the surgeons reported, and who regulated all the medical concerns of the division. It was his duty to see that, however short a time a battalion or a corps rested in one place, a regimental hospital was established; indeed as they carried with them medicines, bedding, stores, and all the materials of a hospital, a regiment might be said to have its hospital constantly established even on the march. It was frequently established in the face of an enemy, and nearly within the reach of his guns. When the regiment halted, after getting the men under cover in some building, and constructing chimnies, the first object was to make bedsteads, getting at the same time additional mattresses of straw, rushes, &c. It was really surprising to see with what rapidity this was done; so much were regiments in the habit of it, I found the hospitals complete in everything, and the men most comfortably lodged in a few days after a regiment had halted. In short, by making each regiment constantly keep up an establishment for itself, we could prevent the general hospitals being crowded; much severe and acute disease was treated in its early and only curable stages, and no slight wounds or ailments were ever sent off from their regiments; by which means the effective force of the army was kept up."

I may say that McGrigor carried out this method of keeping sick and wounded with the regiment against the wishes of Wellington, who was all for rapid evacuation of sick and wounded. At the same time, as McGrigor shows in his autobiography, under Peninsular conditions it answered well. On the day of battle the regimental surgeon and one assistant surgeon followed the corps into action, applied first-aid to the wounded and superintended their removal. The second assistant surgeons joined the senior surgeon of the brigade or a staff surgeon who, with them, established a collecting or dressing station for the wounded, or a field hospital [11]. Guthrie, after his long experience of war, stated that "it is quite impossible for a regimental surgeon to be out of fire, if he do his duty; and a medical staff officer can scarcely be out of cannon shot." Guthrie also tells us that, at the beginning of the Peninsular War, at the battle of Roliça, the post laid down for the regimental surgeon during the action was seven paces in rear of the colours. During sieges the surgeon's post was at the gorge of the trenches. During the assault on a fortress his post was at the foot of the breach [12].

In the old wars the artillery trains going on service had surgeons appointed to them as well as to their depot at Woolwich. As the artillery increased the ordnance medical staff was increased, thus forming under the Master-general of the Ordnance a distinct medical department. We need say little about it except that it had, when Waterloo was fought, a director-general of its own, and the other ranks were surgeon-general and inspector, assistant surgeon-general and inspector, resident surgeon, surgeon, apothecary, assistant surgeon, and second assistant surgeon. At Waterloo the ordnance medical department was represented by four surgeons, three assistant surgeons, and ten second assistant surgeons [13].

The Household Troops also had a separate medical establishment. The

senior surgeon of each regiment of Foot Guards was given the style of surgeon-major, and the other surgeons were called battalion surgeons. Each battalion had three assistant surgeons. At Waterloo only two assistant surgeons were with each battalion, and the senior surgeon (Curtis) was given the acting rank of deputy inspector of hospitals, and placed in charge of the First Division.

The principal medical officer in the Waterloo campaign was Inspector of Hospitals, afterwards Inspector-General Sir James Grant. Under him were nine deputy inspectors and one acting deputy inspector. Five of these were appointed to the medical charge of divisions, two were directing the hospitals at Brussels and Antwerp. Deputy Inspector J. R. Hume was physician to the Headquarters' Staff and personal physician to Wellington, as he had been in the Peninsula. Deputy Inspector John Gunning was designated "Surgeon-in-Chief to the Army serving in the Netherlands." Deputy Inspector Stephen Woolriche was appointed to take charge of the field duties in the event of a general action and in this capacity was principal medical officer at the battles of Quatre Bras and Waterloo. There were also nine Physicians. One was appointed to the staff of the Third Division. How the others were employed I cannot trace, but probably they were on the staff of the general and field hospitals. There were thirty-two Staff Surgeons. Some were on divisional staffs. Eleven were at Waterloo, one was at Quatre Bras; the others were, presumably, at the hospitals. Five Hospital Assistants and one Apothecary were at Waterloo; the rest of the medical staff, consisting of sixty-five hospital assistants, five hospital mates, one purveyor, seven deputy-purveyors, four apothecaries and ten dispensers, were on duty in the hospitals [14].

The British army at this time had no ambulance system corresponding with that in the French army, where Larrey had introduced his "flying ambulances" for the rapid removal of the wounded, and Baron Percy had later formed a corps of surgeons and trained stretcher-bearers, with waggons very much on the lines of a modern field ambulance. In our army when a man was wounded his comrades removed him to the rear, or, if the action was brisk, he lay wounded on the ground till the fight was over. It is estimated that at one period of the Battle of Waterloo 10,000 men were absent, having gone to the rear with wounded. No regularly trained men were provided for the removal of the wounded or to assist the surgeons either on the field or in the hospitals. Wounded were removed from the field by the bandsmen or by their comrades to the first line of surgical assistance and afterwards transported to the hospitals of the second line, field hospitals, or to the general hospitals in return carts of the commissariat, in hired country carts or in spring waggons. At this time the wheeled transport of the army was managed by a corps designated the Royal Waggon Train. It included a number of spring waggons for the carriage of the sick and wounded. Two of these were supposed to be detailed to each corps. These waggons were four-horsed, could carry only two wounded lying down and seven or eight sitting up, and were very heavy and so broad that they blocked the roads. The stretchers in use consisted of a pair of poles with canvas between. They had no traverses [15]. Each regimental and staff surgeon was allowed a horse or mule with a pair of field panniers and a pack-saddle for the carriage of his field medical stores [16]. From a reference in Guthrie's "Commentaries," I gather that there were depots of medical stores on the lines of communication from which the hospital and regimental medical supplies were obtained. The attendants in the hospitals were not trained men. They were men from the regiments, detailed as occasion arose

for duty in the hospitals. While so employed they were called hospital orderlies.

To sum up the medical position when the fighting began: With each cavalry regiment and infantry battalion was a surgeon and two assistant surgeons; with the headquarters' staff, on the lines of communication, in field and general hospitals were the medical staff. The hospitals were not yet ready, but were in process of formation. The General Orders of Wellington note day by day, until just before Waterloo, the arrival of additions to the medical staff of the hospitals. McGrigor hurried more over from England after the battle. The fact is Napoleon struck before our army was ready.

Let us now return to the field of operations. Napoleon's concentration being completed, on the morning of June 15 he crossed the Sambre at Charleroi. Ziethen's Prussian Corps was opposed to him and fell back fighting on Ligny, where the Prussian Army was collecting. On the same day Wellington issued orders for the concentration of his army at Quatre Bras. This place was held by 10,000 Dutch-Belgian troops. Many of Wellington's troops had a long way to march, and the result was that during the next day, when the battle occurred, regiments arrived at intervals one after the other. His cavalry was late in arriving. As part of his attack on Ligny, Napoleon sent Marshal Ney with 47,000 men and 120 guns to occupy Quatre Bras, and then turn on the Prussian right flank. The fight began at 2 p.m. on June 16 [17]. Ney's troops greatly outnumbered the Allies at first, but, during the afternoon and evening more and more British troops arrived, and, in the evening Wellington was able to take the offensive and drove Ney back to Frasnes. The French had the superiority in guns and cavalry and made most effective use of them during the day. The British-Allied loss in killed and wounded was about 5,000, one half of whom were British. Houses near the cross-roads were used as dressing and collecting stations for the wounded, especially an inn, with a yard and outbuildings at the north-east corner. At one time the French cavalry charged through Quatre Bras and got into the inn-yard where they killed some stragglers and wounded. Assistant Surgeon Stewart, of the 92nd, who was dressing a man behind a house, had his bonnet cut in two and a lance run into his side [18]. Dr. Denecke, physician to the staff of the Third Division, was also wounded and his horse too. Our troops bivouacked for the night at Quatre Bras. In the meantime Napoleon had attacked and defeated the Prussians at Ligny with heavy loss, and the Prussians had retreated, not, as Napoleon expected, along their line of communication to Namur, but northwards to Wavre. Wellington now decided to retire along the Quatre Bras road through Genappe to Waterloo, and issued orders for the wounded to be collected and evacuated on this road. An officer of the artillery [19], who was present, wrote: "We left the enemy nothing but our killed—our wounded we brought off on cavalry horses, except such as could not be found in the standing corn." An officer of the 92nd [20], who was wounded, says he was carried in a waggon, but the motion was so painful that he got out and walked to Genappe and afterwards to Brussels. The same day, June 17, "waggons filled with wounded began to arrive in Brussels. The streets were filled with the most pitiable sights. Numbers of wounded who were able to walk were wandering on every road" [21]. The day was sultry and in the evening a thunderstorm with very heavy rain came on. Genappe was that night full of wounded. The retirement was leisurely; the British and Allied army completed its march and bivouacked for the night at Waterloo, on the position it was to hold next day.

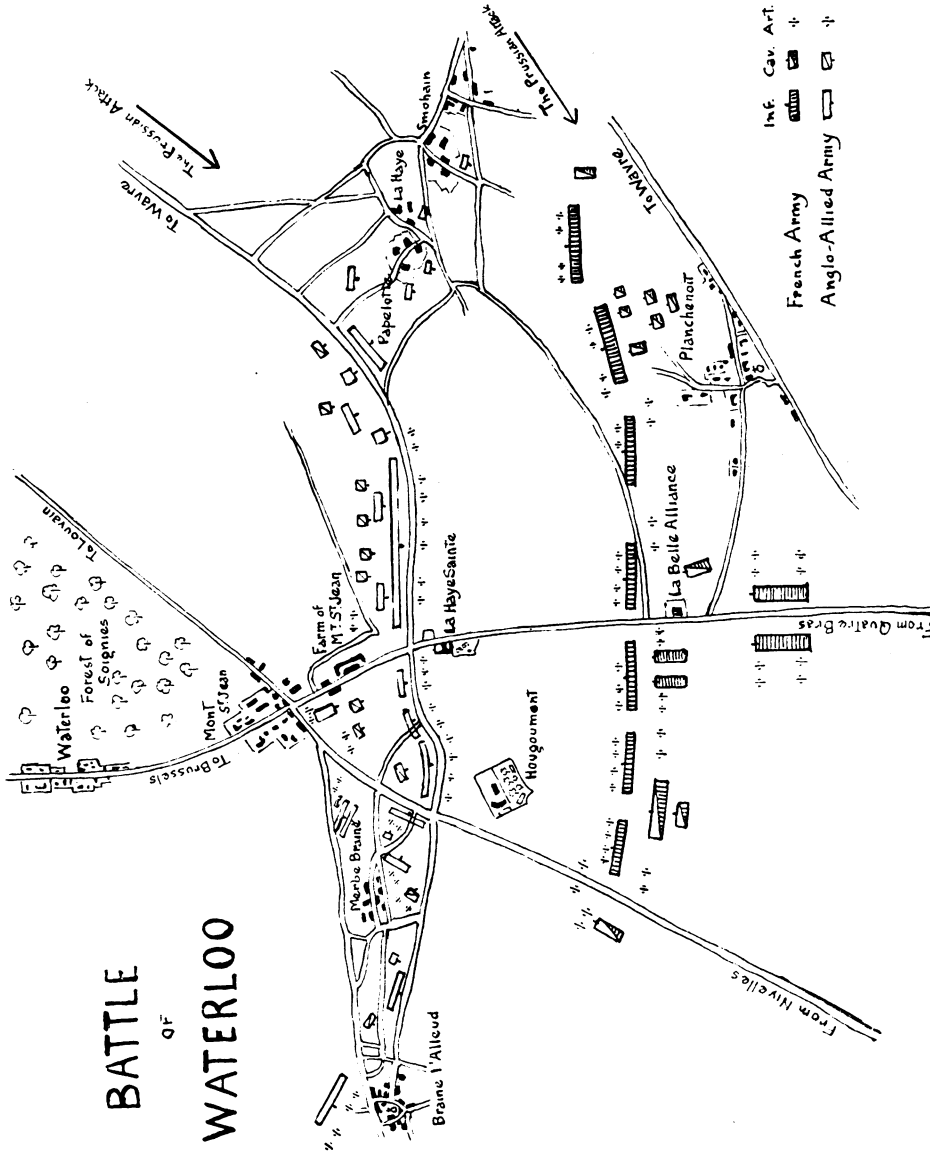
The morning of Waterloo showed the rival forces drawn up, each along a ridge astride the Genappe-Waterloo road with low ground between them (see Map p. 46). The ridge occupied by the British was traversed by a road which facilitated movement. In front of the right of the Allied position was the château and farm of Hougoumont, in front of the centre was another farm, La Haye Sainte. Both were held by Allied troops. At the centre of the French line was another farm, La Belle Alliance. Either owing to the heavy rain making the ground soft and hindering movement, or from lack of artillery ammunition, Napoleon delayed the fight until just before noon. Napoleon had more guns and the battle began with artillery fire and a French attack on Hougoumont. This was to have been only a preliminary of the battle but the defence was so obstinate throughout the day that a large part of the French infantry was kept engaged there and the château was still uncaptured. During the fighting at Hougoumont the wounded were placed in the chapel and in a barn. These were set on fire and some of the wounded were burnt in the barn [22]. Seventeen hundred killed and wounded were afterwards collected within the enclosure at Hougoumont. At 1.30 p.m. a vigorous attack was made on the British left between La Haye Sainte and Papelotte. The fighting was severe and the French repulsed with heavy loss. From 4 to 6 p.m. Ney directed assaults against the British right centre, west of the Genappe road. The Prussians now began to come up on the French right, and Napoleon was obliged to detach troops of the Guard to meet them. Ney's cavalry charges had little effect against the British infantry squares. Between 7 and 8 o'clock Napoleon ordered a general assault on the British position. In spite of the desperate valour of the Old Guard the French were driven back, Wellington's army advanced in turn to the attack and the battle was over. The Prussians took up the pursuit of the retreating French. Wellington's army bivouacked for the night on the field.

The Anglo-Allied army at Waterloo numbered 49,700 infantry, 12,400 cavalry, 156 guns: the British being 15,200 infantry, 5,800 cavalry, and seventy-eight guns. But 18,000 men were at Hal and Tubize, eleven and eight miles from Waterloo, guarding Wellington's right flank and these did not take part in the battle. Absent, sick, and wounded were shown as 3,240 men, but 1,000 of these were present at the battle. The French had 52,600 infantry, 14,900 cavalry and 266 guns.

The Allied casualties amounted to about 13,000, the Prussian 7,000, and the French 30,000. The French losses in the week between June 15 and 22 numbered 55,000, including 7,500 prisoners, or 43 per cent. of Napoleon's army [23].

The British, including the King's German Legion, had 1,759 killed. The wounded were about 6,000. Of these, 856 afterwards died of their wounds. The missing numbered 1,600, most of whom had left the battlefield with wounded, and afterwards rejoined, but 353 men were not afterwards heard of.

As to the nature of the wounds: sword and lance wounds were practically confined to the cavalry and were much more frequent amongst the French wounded. All suffered from gunshot. The British troops were at first exposed to the French artillery fire. Wellington retired then to the reverse slope of the hill only bringing them forward as required. Even while waiting in reserve on the other side of the hill the French cannon balls and shells did great damage among our ranks. Now, as to the situation of, and the work done by, the medical officers during the action, Assistant Surgeon Gibney, 15th Hussars, wrote [24]:—


BATTLE
OF
WATERLOO
Inf. Cav. Art.
French Army
Anglo-Allied Army
The Prussian Attack
The Prussian Attack
To Wavre
To Wavre
Smohain
La Haye
Papelotte
Planchenoit
La Belle Alliance
La Haye Sainte
Farm of Mt St Jean
Forest of Soignies
Waterloo
Mont St Jean
To Louvain
To Brussels
Hougoumont
Merbe Braine
Braine l'Alleud
From Quatre Bras
From Nivelles

"At first the medical officers remained at the positions occupied by the regiments at the beginning of the battle and the wounded found their own way back to them. As these positions were exposed to the enemy's fire they were directed to take up their quarters in the village of Mt. St. Jean. They found the village full of wounded."

The inhabitants had deserted the villages of Mt. St. Jean and Waterloo, behind our line, and, after the battle, the houses were taken over by the surgeons, and wounded officers were carried to them, each regimental surgeon keeping his own wounded together. Other villages and hamlets in the neighbourhood were also filled with wounded, for instance, the wounded of the 52nd regiment were taken to Merbe Braine as well as to Waterloo [25]. About one-third of a mile behind the fighting line was the farm of Mt. St. Jean, and this, according to Cotton, "was the chief hospital or the head-quarters for the medical staff." Simmonds [26] says "the farm of Mt. St. Jean was the collecting station for the wounded." An eye-witness stated that "the three rooms in the lower part of the house, nay, even the stables and cow-houses were filled with wounded British officers." A cavalry officer [27], visiting the field next day, wrote that

"the wounded have remained all night on the spot where they were hit, and from their number and want of means of immediately carrying them away, I fear some will have to remain out a second night. The weather is now fine and if they are dressed and supplied with a little water and bread, they will not take any injury. Many of the enemy must remain out a second night, and some a third."

As a fact the last British wounded were not removed from the field until the Thursday following the battle and, according to Sir Charles Bell, the French wounded were still being collected from the woods at the beginning of July.

An artillery officer says that, before the battle, Wellington cleared the road to Brussels, but many writers say that, after the action, the road was choked with scattered baggage, broken waggons, and dead horses. It was impossible for the wounded to be brought from the field.

"The way was lined with unfortunate men who had crept from the field. In every village and hamlet for thirty miles round wounded soldiers were found wandering; the wounded Belgic and Dutch stragglers exerting themselves to reach their own homes" [28].

The day after the battle most regiments sent out strong fatigue parties to collect the wounded and get them under shelter in care of their surgeons. Captain Hay, of the 12th Light Dragoons, says the wounded men were moved to the sides of the roads. At Waterloo

"the wounded were in hundreds without any covering, lying on every spare piece of ground. These the medical men were attending. The medical officers were quite worn out with the incessant duty they had been called upon to perform for three successive nights, and still there appeared no end to their toil."

At Brussels he found a wounded officer of his regiment who had not yet been seen by any medical officer. He took him to a large convent where every space of ground was covered with wounded soldiers. "In one long broad room, with a table down the centre, were lying twenty or thirty poor fellows, under the operations of the doctors' knives." The people of Brussels rose to the occasion and threw open their houses to the wounded, their doors being inscribed with the number of wounded taken in. Carriages were sent to the battlefield with refreshments for the wounded and to bring back wounded soldiers. Captain Hay says also that, on the 23rd, he saw "several patrols

of Prussians shooting their own and the French wounded who were beyond recovery" [29]. On the third day after the battle a field hospital was opened at Mt. St. Jean. Wellington's army had pushed on towards Paris, taking with it a large part of its medical personnel. Later on, when things had been got into better shape at Brussels and Antwerp, a large number of the hospital staff were sent after the army to Paris.

On June 20 Wellington issued a general order which ran:—

"In order to preserve order, and to provide for attendance in the hospitals at Brussels, the Commander of the Forces desires that one officer, one N.C.O., and three private men, for 100 sent to hospital, wounded in the late actions of the 16th and 18th instant, may be sent from the several regiments to Bruxelles to-morrow, and place themselves under the orders of the commandant there. No regiment need send officers and men for more than 100 men, and in case any regiment has not sent more than fifty men to the hospitals, such regiments will send only one non-commissioned officer and two men to take charge of them." — (Wellington's Dispatches.)

The best account of the arrangements for the care of the wounded after Waterloo is contained in John Thomson's "Report of Observations made in the British Military Hospitals in Belgium, after the Battle of Waterloo," published in Edinburgh in 1816. The report was made at the instance of the Director-general. Thomson was a Professor of Surgery in the Edinburgh College of Surgeons and Regius Professor of Military Surgery in the University of Edinburgh. He had formerly been a surgeon to the forces. Accompanied by the principal medical officer in Scotland, Dr. Somerville, he arrived in Brussels on July 8. The hospitals there were under the direction of Deputy-Inspectors of Hospitals Gunning and McNiel. He says that although many of the wounded had been left on the field for days they did not appear to have suffered in any respect from the exposure. The French wounded were sent, some to Brussels, others to Termonde, but the greater part to Antwerp. Six general hospitals were established in Brussels and found accommodation for 2,500 wounded. These were known as the Jesuits', Elizabeth, Annonciate, Orpheline, Nôtre Dame, and Gens d'Armerie Hospitals; the last being set aside for French prisoners. Remittent and intermittent fevers were common amongst the French. At Termonde Dr. Perkins, a British medical officer, was in charge, and had under his care 250 French wounded. A double tertian fever was very common.

At Antwerp there were five hospitals, the Minimes, Facon, Augustines, Hôtel du Nord, and the Corderie. The Corderie was a large building intended as a rope-walk for the naval arsenal. It was fitted up for the French wounded, and was nearly a quarter of a mile long, with accommodation for 1,000 wounded. Other French wounded were placed in the Jesuits' Church, and in a suite of public rooms known as the Sodalité. The French wounded at Antwerp were under the care of the surgeons of the town, superintended by a few British medical officers. Deputy-Inspector-of-Hospitals Higgins was the principal medical officer, and was greatly praised for his arrangements. The wounded in Antwerp, however, did not do so well as those at Brussels, hospital gangrene being only too common. Remittent and intermittent fevers were also frequent. This was attributed to the low-lying situation of Antwerp. Thomson and Somerville were of opinion that "hospital sore" or gangrene was a disease endemic in Belgium. By August 7, owing to the numbers who had recovered or had been sent to England, three of the hospitals in Brussels had been closed and all the English wounded in Antwerp collected in the Facon. French

convalescents had been evacuated to Dunkirk, so that only 400 remained in the Corderie. Hospital gangrene was now common in all the wards. It was not of severe type, and in Antwerp was associated with little constitutional disturbance. Thomson did not think it contagious or conveyable to one case from another. Incised wounds were most common amongst the French, the head and shoulders being most frequently affected. The French surgeons packed the incised wounds with lint, and thus healing was by granulation; the English drew the edges of the wounds together by means of adhesive plasters. Stitching, we are told, was at this time almost abandoned. Gunshot wounds were, however, the most common. Amputation had been performed on the field both by English and French surgeons during the battles of June 16 and 18. Altogether some 500 amputations were performed after the battles, one-third being carried out before fever had set in. Thomson says the mortality depended a great deal upon the time at which amputation was done—the delayed operation being most fatal. In a return, I find that the amputations on British wounded numbered 216.

The wards in the hospitals were described as large, airy, and well-ventilated, and there was an abundance of good food. As far as possible cases were collected in separate wards according to the class of wound from which they suffered.

Guthrie, the greatest surgeon the Peninsular War had produced, and who was afterwards three times President of the Royal College of Surgeons, was on half-pay when Waterloo was fought. He offered to go to Belgium for three months but was refused, the D.G. wanting to employ him for six months. Ultimately, he went to Brussels on his own account and acted as consulting surgeon. He did brilliant work. He amputated at the hip, successfully, removed a bullet from the bladder, and tied an artery in the leg through the calf muscles. He was the first surgeon to use the lithotrite.

Sir Charles Bell, also acted as a voluntary consultant. He was in Brussels from June 29 till July 9. His letters, published in 1870, by his wife, contain vivid descriptions of his work in Brussels. Writing on July 1, he says: "It was thought we were prepared for a great battle, yet, there we are, eleven days after it, only making arrangements for the reception of the wounded." He found the French wounded the most neglected and took on the performance of all the capital operations on the wounded French. For three days he operated from 6 a.m. till 7 p.m. He was a clever artist and made sketches of what he saw at Brussels. Some of these sketches, presented by his widow, are now in the Royal Army Medical College.

Of the many who recorded their memories of Waterloo most refer with praise and respect for the work done by the surgeons. The most scathing things were said by old Peninsular veteran surgeons, like Guthrie, who declared that nothing could have been worse than the state of the hospitals when he arrived. There appears to have been a lack of dressings. Lieut.-Colonel Tomkinson, speaking of the efforts of the ladies of Brussels to supply old linen for the wounded says:—

"To judge of this assistance we should attend a large hospital after a general action, where, for want of linen, the same is used week after week and the very bandages put round wounds to cure them are doing more injury than good. Many surgeons came from England for the practice, and on things being arranged, no wounded could be better attended to.

"The wounded of a British Army generally receive more attention than those of other nations. The French system is to run great risks with a man's life in hopes of

saving a limb, from knowing that a soldier without leg or arm is incapable of service, and probably a burden to the State. With us, the practice is possibly too much in favour of hasty operation."

Army surgery was, however, admitted to be years ahead of that in civil life, owing to the great opportunities afforded the surgeon during the Peninsular War [30].

Wounded not likely to return to duty were sent to England, via Ostend, in August and September. In November, orders were issued for all British troops to evacuate Ostend, Brussels, and Antwerp, except a battalion which was left to take care of the hospital. Many wounded remained in Brussels until early in 1816. The remaining British wounded appear to have been then sent to the York General Hospital, then standing where part of Eaton Square now is, and there Guthrie had two wards and lectured for two years on the cases. To this hospital young medical officers were sent for instruction in their medical and surgical duties.

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