

## Part First.

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### ORIGINAL COMMUNICATIONS.

#### I.—THE AMBULANCE MOVEMENT IN SCOTLAND.

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It is now rather more than two years since a movement was originated in Glasgow for the establishment of a permanent ambulance service. Colonel Mactear was the first to bestow attention on the subject, and with characteristic enthusiasm was anxious that such an association—though at first confined to the city and its immediate vicinity—should gradually extend its area of usefulness throughout the whole of Scotland. The necessity for a provision of this kind had long been felt, but with that apathy which weds us to established customs, and disinclines us to depart from the recognised order of things, nothing was ever done towards supplying the want. Even up to a recent period there are few surgeons of experience who cannot recall cases in which the severity of an injury has been seriously aggravated by the absence of skilled assistance, and by the want of what is equally essential in the treatment of accidents at the time of their occurrence,—a proper means of transporting the wounded either to their own homes or the nearest hospital. It is well known, for example, to all who are conversant with the matter, that simple fractures have in both these ways been frequently made compound, and where large arteries have undergone severance or laceration, lives have in many instances been lost, owing to ignorance in regard to the means usually adopted for arresting the flow of blood. In ship-building and engineering yards the operatives engaged there are constantly getting hurt, and intolerable agony was often endured, in consequence of the delay which usually took place in obtaining surgical aid; while a subsequent journey to the Infirmary in a vehicle, entirely unsuited for the purpose, was a trial of fortitude from which the strongest would speedily recoil. But notwithstanding the fact that all this was patent to the profession, and to the great bulk of the community, it was not till the spring of 1882 that the Association—now known as the St Andrew's Ambulance Association—was formed, the aim of its promoters

being to impart amongst its members a knowledge of what is termed, "First Aid to the Injured," so that wounded or disabled individuals might be at once relieved from suffering, and made as comfortable as circumstances would permit till the arrival of a medical man. This was certainly a great step forward, and as far as it went nothing could be better; but the fact was apparent that if such tuition was to be of thorough utility, it would require to be supplemented by an efficient transport service, for the proper removal of patients is of the highest importance, and demands the utmost gentleness and skill in its execution.<sup>1</sup>

In order to carry out the first of these projects, classes were formed in different parts of the city with the view of affording instruction in ambulance work, and, under charge of lecturers appointed by the Association, were thrown open to all on payment of a small entrance fee. To ensure a good attendance, the large employers of labour were asked to co-operate by sending a few of the more intelligent of their men to receive a practical course of training in the treatment of the various accidents likely to happen in connexion with the pursuit of their several industries, and it is pleasing to add that an immediate and hearty response was given to this appeal. The pupils, who speedily numbered more than five hundred,<sup>2</sup> were invariably found to evince a deep interest in the subject, and a desire to be of use afterwards, which was deserving of every encouragement. In this way an ambulance squad was soon ready to assume duty in the principal shipbuilding yards and foundries, and by its aid casualties of all descriptions are now promptly dealt with, and in a more enlightened and humane way than they used to be. To prevent the existence of popular misconceptions regarding the objects and scope of the Association, care was taken by the teachers to impress upon the members of their classes that their future services were by no means intended to supersede those of the legally qualified practitioner, or, indeed, trespass upon his province in any degree. On the contrary, it was made perfectly clear to them that the action of ambulance men in cases of injury was to be confined to the relief of the more pressing symptoms, and to the placing of the patient as much as possible at his ease until the assistance of a surgeon could be procured.

The next step which the Association took was the purchasing of an ambulance waggon of the Howard pattern.<sup>3</sup> This has proved invaluable, and been greatly appreciated by those who have used it, though scarcely taken advantage of to the extent that it might be. It may be stated, for the benefit of those who have not seen

<sup>1</sup> Patients who are conveyed to hospital in ambulance waggons are invariably found to be fresher, and in better condition than those who are brought in carts or cabs.

<sup>2</sup> During 1883 a large number of men passed the required examination, and it is certain that the records of the present year will show an increase on either of its predecessors.

<sup>3</sup> The price of this waggon was £65.



the carriage in question, that three patients can be accommodated in it at one time. On its off side there is a sliding bed which comes out easily, and when loaded<sup>1</sup> may be slipped in again without causing any inconvenience to the person placed upon it. On the near side a stretcher can be fixed at the same level on hooks fitted up for the purpose, and, if required, there is room for suspending an additional one above. A second waggon of similar construction was recently presented to the Association by Colonel Mactear and the officers and members of the 5th L.R.V. A third, somewhat larger, and with a number of improvements, has just been supplied to the Coatbridge Branch of the Association by Mr Holmes of Irvine, and, through the kindness of that gentleman in supplying me with photographs, I am now enabled to give woodcuts of it.<sup>2</sup>

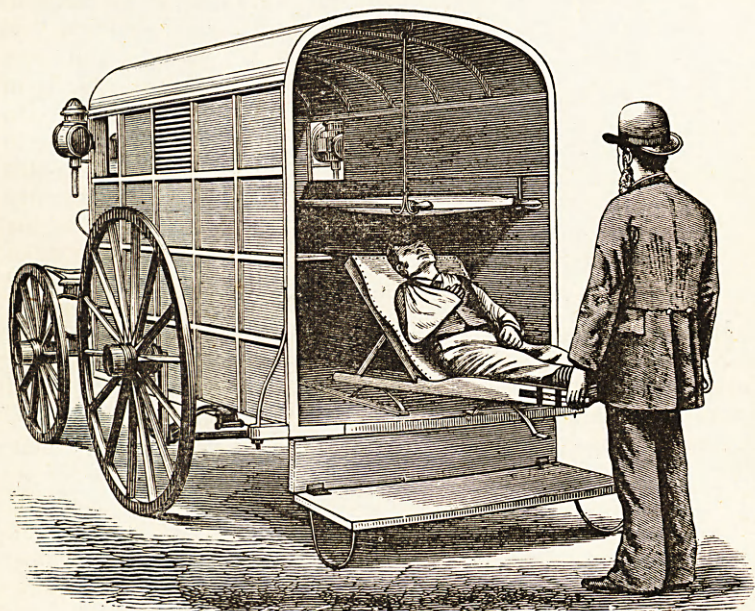


FIG. 1.—Waggon of Coatbridge Ambulance Association.

To reduce friction the machine is supplied with Armstrong's single plate springs, and in order to promote steadiness of movement and lessen vibration the floor of the van is placed about eighteen inches above the ground. Two sliding beds<sup>3</sup> are arranged on it, and in cases of emergency there is ample room for attaching a couple of stretchers above. A door is provided in front (see Fig. 2), so that the attendant can take his seat by the heads of the sufferers

<sup>1</sup> A stretcher is said to be "loaded" when the patient is placed upon it, and "unloaded" when he is lifted off it.

<sup>2</sup> My best thanks are also due to the executive committee of the Coatbridge Branch of the Association for their kind permission to publish these. The cost of this waggon was £60.

<sup>3</sup> These beds are supplied with springs.

without incommoding them. The height of the wheels<sup>1</sup> lessens the draught, and hickory and steel have been freely used with the view of combining lightness and strength.

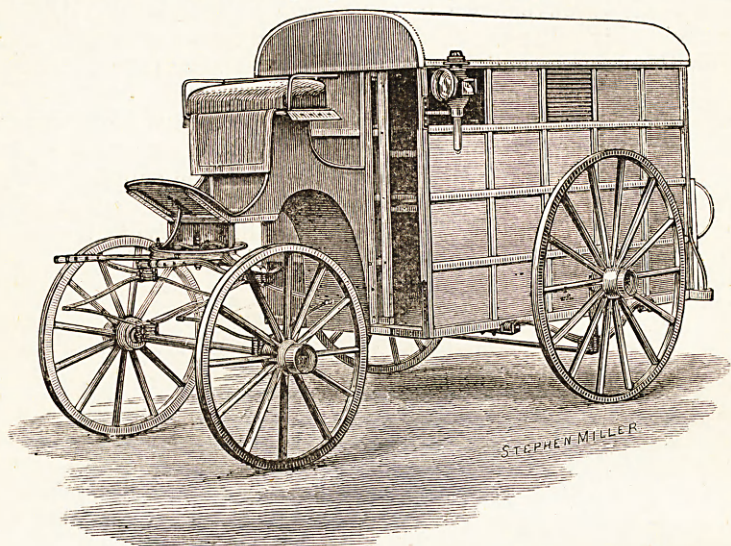


FIG. 2.—Waggon of Coatbridge Ambulance Association.

Messrs Atkinson and Philipson, the well-known coach builders of Newcastle-on-Tyne, have recently produced an excellent ambulance carriage<sup>2</sup> (see Fig. 3), and the stretcher (Fig. 4) which accompanies it is easily managed. Both have been constantly in demand since they were placed at the service of the public.

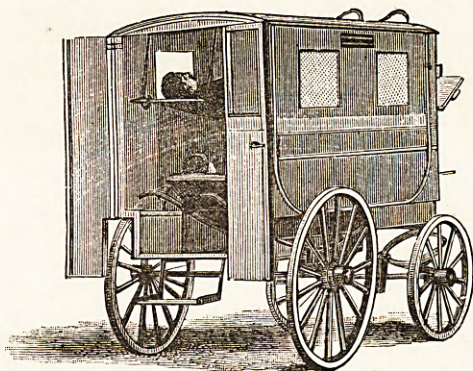


FIG. 3.—Messrs Atkinson and Philipson's Waggon, used in Newcastle-on-Tyne.

<sup>1</sup> The height of the front wheels is 3 feet 6 inches, that of the hind ones amounts to 4 feet 8 inches.

<sup>2</sup> I have to return my best thanks to Messrs Atkinson and Philipson for kindly supplying me with woodcuts of the waggon and stretcher designed by them.





FIG. 4.—Messrs Atkinson and Philipson's Stretcher, used in Newcastle-on-Tyne.

Fig. 5 represents the first waggon used by the St John's Ambulance Association in London. Though a great improvement on the cab, the height of this vehicle must ever remain an insuperable objection to its use, and the safe depositing and withdrawal of patients at such an elevation can be no easy matter.

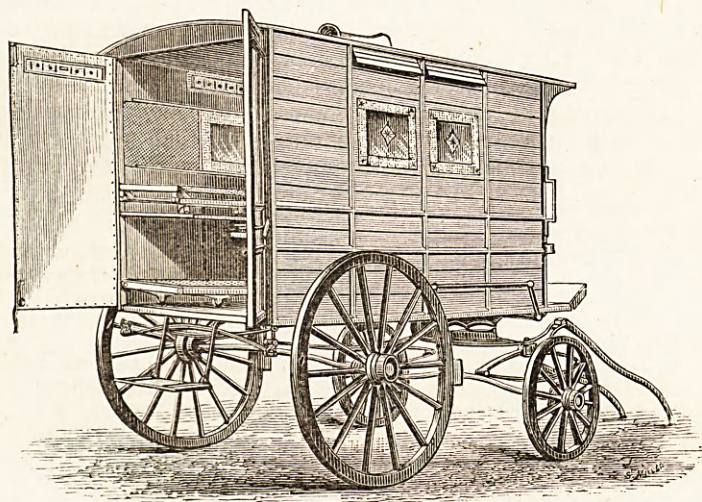


FIG. 5.—First Waggon of St John's Ambulance Association, London.

By way of illustrating the advantages which such training and such means of conveyance confer, let us take the case of a man who has received a fracture of the leg in any of the large works which are scattered throughout the city or its neighbourhood. Till quite recently no attempt was made to put up the injured limb, as splints were not kept in store, and it was improbable that any fellow-labourer possessed the requisite knowledge for ex-

temporizing such things.<sup>1</sup> Unless, therefore, a medical man happened to be on the spot, the patient was allowed to lie in any way that he chose till professional aid could be summoned,—a state of matters causing much needless pain, and which a little previous training would have averted. This was a trifle, however, in comparison to what the unfortunate sufferer was compelled to submit to during the drive homewards, while the getting of him in and out of a cab was a species of torture of which words fail to convey the slightest idea.<sup>2</sup> Now, however, the waggons of the Association are sent free of charge to any point within the municipal boundaries of Glasgow on notice to that effect being sent to the secretary.<sup>3</sup> In doing so, it is usual to notify particulars of the nature and extent of the disaster which has occurred, and when this precaution is attended to, everything likely to prove useful can be provided. If, for example, a telegram<sup>4</sup> has been received requesting the removal of half a dozen men who have been injured, the official in charge at once telephones to Messrs Wylie & Lochhead<sup>5</sup> to send both waggons to head-quarters. During the interval which precedes their arrival, the officers prepare themselves for the journey, and select the necessary material,<sup>6</sup> the whole time occupied in the carrying out of this order being, as a rule, under six minutes. Should there happen to be an ambulance squad at the scene of accident, the attendants, on reaching their destination, will probably find the broken limbs have been set, any bleeding arrested, and every burn or cut dressed,—all that they require to do being to remove the patients. If not—and such occasions are fortunately now rare—remedial measures are at once adopted, and the wounded men borne to the couches and

<sup>1</sup> Ambulance pupils are always instructed in regard to the different ways of extemporizing splints.

<sup>2</sup> Cabs were almost invariably used for the transportation of the wounded. Occasionally people who had sustained injuries in the country were brought to town in carts, and though these vehicles permitted the patient to lie at full length, yet the jolting which the absence of springs necessarily entails must often have proved intolerable.

<sup>3</sup> The waggons are only available in cases of accident, and patients suffering from infectious diseases are not conveyed in them. The head-quarters of the Association are situated at 93 West Regent Street, and two attendants are always on duty, and ready to attend to cases by night as well as by day.

<sup>4</sup> By the kind permission of Mr Hobson, postmaster, priority of delivery has been secured for telegrams addressed "Ambulance," Glasgow, and at a recent meeting of the Town Council it was enacted that way must be made on the streets for the waggons belonging to the Association. The Clyde Trust have also granted them a free passage at their ferries.

<sup>5</sup> Under existing arrangements Messrs Wylie and Lochhead undertake the storage and horsing of the waggons, and the best thanks of the Association are certainly due to that firm for the admirable manner in which they have fulfilled their contract.

<sup>6</sup> The box of the Association is always taken in journeys of this description. It contains several sets of splints, a number of triangular bandages, tourniquets, pins, carbolic oil, and one or two other requisites useful in cases of accident. The original box of the Association was designed by Col. Mactear, and is supplied at a moderate cost at the office of the Association.



stretchers which have by this time been laid for their reception. These are then lifted by the bearers, and fixed in their proper places within the vans. The attendants take their seats by the heads of the sufferers, the doors are shut, and the return journey effected with all available speed.

In reviewing the last annual report<sup>1</sup> of the St Andrew's Ambulance Association, it is evident that much good has been accomplished, and the statistics, which are appended, show that the waggons continue to be of great service, not only in the transportation of the wounded, but in the removal of the aged and infirm. One of the most pleasing features observable in connexion with it is the fact that branches have been formed in such important centres as Edinburgh and Coatbridge. In the first of these a number of classes were recently organized, and several hundreds of pupils enrolled; while in the second, as well as in Shettleston, Thornliebank, and Alloa, successful courses of instruction have been delivered. Notwithstanding the invaluable nature of the services which this excellent Society renders, it is to be regretted that, financially, its affairs are not in the prosperous condition which could be desired; but as its merits are brought more prominently forward, and as the amount of work it is unostentatiously doing comes to be better known, there will, let us hope, be no lack of funds for its maintenance. Of the value of ambulance training, more especially in large industrial centres, it is needless to speak; and there is abundance of testimony to prove that the spread of knowledge in this way has already been the means of mitigating much suffering, and on more than one occasion of averting complications which must otherwise have led to loss of life.<sup>2</sup>

In conclusion, I need scarcely add that any extension of the movement will be eagerly welcomed by the parent Association, and every information regarding the formation of classes will be gladly afforded by the secretary, Mr W. M. Cunningham.

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## II.—THE INFLUENCE OF ACUTE OTITIS MEDIA ON THE RESPIRATION.

By AYMER R. MACDOUGALL, M.B., M.R.C.S.E., Chesterfield.

AMONG the various reflexes originating from the ear, I can find in the works I have consulted no mention of one bearing on respiration. As it is a subject which must interest all practitioners, and which may sometimes give rise to a good deal of doubt and anxiety

<sup>1</sup> Issued April 1884, and can be had on application to the secretary.

<sup>2</sup> A very good illustration of this occurred not long since in the case of a woman who received a severe wound of the leg, and where, but for the timely intervention of a police constable in applying a tourniquet, the patient must have bled to death. Further particulars will be found in the *British Medical Journal* of 12th April 1884, page 749. The Govan police force have recently passed the required examination in ambulance work, and it is to be hoped their example will soon be followed by other divisions of the constabulary.