alluded to a scheme for amalgamation between the London and Counties Medical Protection Society and the Medical Defence Union, which was considered as far back as 1893 without success. He alluded to the support given by THE LANCET then and later to the idea of a fusion between the two societies in terms which suggest the possibility that the idea may revive.

SCIENCE IN CATALONIA.

OVER the greater part of Spain the language spoken is Castilian, nowadays commonly known to us as Spanish. But not less Spanish are two other tongues equally derived from the vulgar Latin once used in Spain—namely, Portuguese-Galician, employed along the western border of the peninsula, and Catalan, spoken by some 3½ million Spaniards living along its eastern border and in the Balearic Islands. As a language Catalan came into existence in the ninth century, when it was brought into Spain from the south of France, Languedoc, by the returning Spaniards, who had been driven northwards out of their country by the Arab invasion in the second decade of the eighth century. Catalan literature, never very extensive in scope or large in quantity, was at its best in the fifteenth century, and after that period fell into decadence from desuetude; Castilian took the place of the Catalan tongue among the educated, and Catalan fell into the position of a *patois*. But about a hundred years ago a revival of the Catalan language and literature was essayed with no little success, and at the present time the effort is well maintained in both poetry and drama. A further example of the new vitality of Catalan takes the form of a "Biological Society" at Barcelona, which published its first year-book in 1914. During the year this society held eight sessions, at which the members read and discussed 30 papers on medical and pathological subjects exclusively, and one on a matter of palæontology. Seven of the papers deal with the electrocardiograph, and are illustrated with numerous electrocardiograms. J. Marimon discusses the question whether both myxœdema and exophthalmic goitre may not be two manifestations of the same disease, hypothyroidism. R. Carrasco details a number of blood-counts in patients with Basedow's disease, showing that in it there is a deviation to the right in Arneth's neutrophil scheme, together with an increase in the nuclear number. Ll. Sayé finds a similar deviation in the leucocytosis produced in both man and rabbits by artificial pneumothorax. He believes that the establishment of such a pneumothorax produces a mild aseptic inflammation in the collapsed lung, and that this accounts for the leucocytosis, which is polymorphonuclear in man, eosinophil in the rabbit. J. Peyri gives a contribution to the study of McDonagh's leucocytozoon syphilidis, finding himself not in complete accord with some of McDonagh's interpretations of the phenomena observed. Of other papers in the year-book three are written in Spanish, all the rest are in Catalan. The Biological Society of Barcelona is to be congratulated on its scientific activity.

AMONG the new Knights there are two well-known medical men who have earned the honour by scientific and administrative work in medicine. We congratulate Sir James Mackenzie, the distinguished worker in cardiac problems, and Sir Frederick Needham, the well-known expert in lunacy, upon the official recognition of their excellent work.

SIX MONTHS WITH THE BEARER DIVISION OF A FIELD AMBULANCE AT THE FRONT.

BY S. J. A. H. WALSHE, D.S.O., M.B., CH.B. EDIN.,
CAPTAIN, R.A.M.C.

HAVING been during the first six months of the present war in charge of the Bearer Division of a Field Ambulance at the front, I am tempted to record some of my experiences in the hope that they may be at least interesting, if not perhaps useful, to officers who at a later date may have to undertake similar duty.

In this campaign, owing to modern gun fire, it has generally been found quite impossible for the Bearer Division whilst remaining with its Tent Division to go forward, collect the wounded during or after an engagement, and return with the casualties collected to headquarters that night. The Tent Division must of necessity be some miles behind the firing line to be totally outside the zone of fire. To perform its duties properly the Bearer Division cannot possibly remain so far back, owing to the distance and the time which would be lost in coming up. It must almost invariably be in front of our own guns and take up its position from, say, 500 yards to two miles behind the front trenches. Whilst the particular area held by the infantry brigade or units from which wounded are to be collected will be pointed out to one, the selection of the actual site to be occupied by the Bearer Division may be left to the officer in charge, in which place, as a matter of course, an advanced dressing station will be established.

Selection of Site of Advanced Dressing Station.

The selection of this site requires some consideration. One may make it a rule that a battery in action, a bridge over a canal or river, or a chateau (marked as such on the map) are best avoided, as they are most likely to attract the enemy's fire. Neither should the vicinity of a railway station be occupied owing to its gun range being known. Billeting areas of troops are generally observed by hostile aircraft, and for that reason should be avoided.

The most elaborate and possibly the best laid-out advanced dressing station which I have seen was in a railway station. Every available room and all the offices were commandeered for the purpose. No detail appeared to have been overlooked. There was quite a good operating-room fitted up, also a room where patients were to be kept prior to operation, as well as one to which they were to be transferred when operated on. This dressing station might well have been taken as a model, which, indeed, it would have been had it not from its environment been a still better model of a death trap. Unfortunately, it was in a railway station, which in itself is a danger zone, a canal bridge previously shelled by the Germans was not 40 yards away, the adjoining village was entirely occupied by troops, an armoured train came up daily to the station to fire, and as if to complete the picture there were two railway trucks of high explosive shells not 20 yards from the dressing station itself. I have given this instance to demonstrate that the site of a dressing station is of infinitely greater importance than the particular type of house used for the purpose.

When ordered to form an advanced dressing station it is desirable to find some suitable house easily accessible from the road, with good accommodation for patients and the personnel, and near where horses can be stabled, but if possible at least 400 yards away from a battery, or a bridge, or chateau, and as near to the front trenches as the brigade commander thinks desirable. If the sanitary condition of the place and its water-supply are not all that could be desired, one has got to make the best of what one finds.

It is essential that ambulance wagons should be hidden when not in use by covering them with branches of trees, as in the present campaign the Red Cross painted on the wagons has not secured their protection from shell fire. It is unfortunate, but none the less a fact, that ambulance wagons have been shelled by the enemy from a distance at which he could not possibly have mistaken them for any other transport. I have had the position of my dressing station marked by hostile aircraft having detected the ambulance wagons (a large red cross was painted on the top of them) and was severely shelled almost immediately afterwards. It is a wise precaution to have dug-outs or trenches made quite close, which can be utilised when necessary, and it will occur occasionally that a Bearer Division will be compelled to occupy dug-outs entirely.

Collection of Wounded.

When the number of casualties is small the number of wounded are usually collected by the regimental stretcher bearers and carried to the regimental aid posts, from which places it becomes the duty of the Bearer Division to evacuate them to the Tent Division, or possibly to some clearing station. During and after severe engagements the number of casualties is necessarily large, and the work of collecting the wounded becomes too great for the regimental stretcher bearers. Then the Bearer Division must assist them to get the wounded back from the trenches. For this and other reasons it has been found necessary in the present campaign to place the Bearer Division in communication with the headquarters of the infantry brigade, from which it has to evacuate wounded. Such communication is a matter of much importance, and on the way in which it is maintained will, to a large extent, depend the rapidity with which casualties are collected and evacuated. It may be effected in the following ways. 1. By means of a telephone wire laid from headquarters of the brigade to the advanced dressing station. 2. By a cycle orderly. In either of the foregoing methods the entire evacuation is carried out through the medium of the brigade staff, who send direct to the officer in charge of the Bearer Division information as to the number and disposition of casualties and the time when they consider it best to collect and evacuate them. 3. By means of a "liaison" officer. In this method a mounted officer of the Bearer Division with a cycle orderly is told off to remain with and accompany Brigade Headquarters. His duty is "to keep constant touch with the Officer Commanding the Bearer Division by means of his cycle orderly. He must observe where casualties occur or are collected, their numbers, &c. He must note the ground passed over by the brigade, and must lead the Officer Commanding the Bearer Division to the position of the wounded when suitable occasion occurs." In carrying out these

orders the liaison officer must be constantly in touch with the regimental medical officers, and so become acquainted if the casualties are too numerous to be collected by the regimental stretcher bearers, and, if so, he reports how many stretcher squads from the Bearer Division each battalion or other unit will require. He also becomes acquainted with the cases which are most seriously wounded (and these require to be evacuated first), how many cases can sit up when pressed for accommodation in wagons, and, further, the most suitable and safest place for a wagon rendezvous.

All these facts communicated at once to the officer in charge of the Bearer Division bring about an extraordinary saving of time in the evacuation of casualties, when time is often of the utmost importance to the lives of the more seriously wounded. This time-saving, to my mind, makes the liaison officer method infinitely the best of any system with which I am acquainted for the collection and evacuation of wounded.

No matter how anxious a brigade staff may be to give information of the type just mentioned, they cannot do so; it is not their work. It is essentially the work of a medical officer, and if left to a layman (in the medical sense of the word) when casualties are numerous unfortunate mistakes are not unlikely to occur.

I, in compliance with instructions, adopted this method during the entire period of the heavy fighting around Ypres in October and November, 1914, when casualties were numerous. I was fortunate in possessing an efficient and capable liaison officer, whose prompt and accurate information enabled me on many occasions to save hours in the collection and evacuation of wounded. The brigade staff readily expressed their approval of the method. It relieved them of all anxiety about the wounded, and thus gave them more time for matters of even still greater import.

The objection most often raised to this method is that it deprives the Bearer Division of the services of one officer. This to a certain extent is the case, but his services are being utilised instead to the best possible advantage where casualties are most likely to occur. I am not at all at one with those who hold that several officers are required with a Bearer Division; indeed, for the greater part of the time around Ypres, during the most severe engagements, the only officer I had to assist me was my liaison officer, and I am quite satisfied that whilst so employed he gave me an amount of assistance which far excelled any work that he could have done for me had he remained at my dressing station. At that time I also had a most reliable non-commissioned officer to assist me.

Transit of Wounded.

At the outbreak of the war the only means of transport for wounded which Field Ambulances possessed were two-horsed ambulance wagons, ten in number. These wagons went to the advanced dressing station with the Bearer Division. However, since last November motor wagons with practically the same holding capacity as the horse wagons have been in use at the front, and their advantages over the latter are obvious.

It is not possible that motor wagons will entirely replace the older horse wagons, and as far as my experience goes there are sound reasons why they should not do so. In the first place, a horse wagon can travel over old, ill-kept roads or over fields which would be quite impossible for a motor wagon

to do. Secondly, even good roads in France and Belgium are usually exposed, and when at all near the firing line are not safe for any transport during the day; and at night head-lights may not be used. On this account motors are highly untrustworthy at night near the advanced trenches, and to add to their difficulty the roads would probably have several shell holes. Finally, where a large amount of transport passes to and fro at night the most careful chauffeurs or drivers will occasionally get their vehicles into a ditch, and it is a much easier matter to get a horse wagon out of a ditch than it is to get a motor.

A procedure which was found very useful at Ypres was to send the horse ambulance wagons up as near to the regimental aid posts as the conditions would allow, and bring the patients back—about two miles—to a place where they would be transferred to the motor wagons, which would take them to the appointed Tent Division several miles back.

Recently the Field Ambulances of the Second Division have been supplied with wheeled stretchers (the McCormack-Brook pattern). These have proved to be of the greatest use in saving both time and labour in getting casualties unable to walk from the regimental aid posts to the wagon rendezvous when the distance to be traversed is quite impossible for any ambulance wagon. The opinion about their utility is not unanimous, but the persons who dispute the point have not, one would imagine, ever acted as stretcher-bearer for 1500 to 3000 yards. If they had they would think otherwise.

I previously mentioned that the billeting site of a Bearer Division will, as a matter of course, be utilised as a dressing station. It is not suggested that the cases evacuated from the regimental aid posts should ever be taken in there; they are sent straight to the Tent Division. However, many slightly wounded cases who are able to walk will be directed to the advanced dressing station from the aid posts and trenches, but it will come in still more useful as a place to which the medical officer in charge of the brigade of artillery can send his casualties. And here it might be mentioned that during the first day or two of an engagement this medical officer may be quite at a loss to know where he can send his wounded, not being acquainted with the sites of the dressing stations.

The officer in charge of a Bearer Division would materially assist the brigade medical officer were he to send an orderly to the nearest battery and indicate to them for the information of their medical officer where his dressing station is situated.

Casualties must not be allowed to accumulate at the advanced dressing station owing to the danger of shell fire. It is well for the officer in charge to bear in mind that rapidity of evacuation should be his aim rather than medical or surgical treatment, which can be so much better carried out in the Tent Division or hospital to which cases may be evacuated.

A Point in Treatment.

There is one type of case which perhaps may be made an exception to the rule just mentioned. It is outside the scope of this article to touch on treatment. But when one has had on many occasions cases brought into a dressing station, which have bled profusely from a severe shell wound or are suffering from shock, one ventures to

hope that an officer in charge of a Bearer Division will be supplied with the means of giving an intravenous saline injection. The patient's condition is usually such that it is only too obvious that nothing can save him except an injection of normal saline solution. I specially mention the intravenous method because a rectal injection would probably not be retained, or if it were, would not be absorbed sufficiently fast. Delay is also the objection to the subcutaneous or intramuscular method.

I am quite aware that this suggestion will be met with the objections that I am likely to cause an early and profuse reactionary hæmorrhage, which is exactly the condition to be avoided, that I cannot take proper aseptic precautions in the field, and that I may possibly bring on pulmonary œdema. Very well; if I am not prepared to take those risks and work on the principle that being forewarned is to a certain extent being forearmed, I default. I have seen more cases than one in which I had no doubt whatever that an intravenous injection of saline solution would have given more than a probability of saving life, and I am not the only person serving at the front who from experience holds the opinion.

Before closing I wish to make it clear that in this article I do not, under any circumstances, mean to address myself to officers of some years' standing who naturally have their own ideas as to how the Bearer Division of a Field Ambulance should be run, which ideas possibly differ from and are preferable to mine. I have written in the hope rather that my experiences, differing as they do in some respects from one's preconceived ideas, may be of some little use or interest to those officers who, not having of necessity had an extensive military training and not having had any previous experience of actual warfare, may find themselves in the near future coming to the front with the new armies and placed in charge of the Bearer Division of a Field Ambulance.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Early Treatment of Tetanus in Military Hospitals in Time of War.

Dr. Bacri has communicated an interesting paper to the Académie de Médecine, and has insisted on the great importance of early diagnosis of tetanus in wounded patients in the preliminary period of infection, while as yet the patient is not seriously poisoned and while serum injected at this period possesses really curative properties. The following is the method which he has used in his hospital, thanks to which he has had the satisfaction of discovering in time and curing two cases of tetanus which declared themselves in the wards. This method was inspired by the preconceived idea that every wounded patient who enters a military hospital is perhaps infected with tetanus. Every day, morning and evening, the patient should be made to open his mouth, the doctor taking note of the distance between the jaws, and finding out the state of tension which is more or less painful in the angle of the jaw. If in any doubt, he should explore the patellar reflex. The testing of the maxillæ and of the patellar reflex barely occupies a minute. The diagnosis arrived at, inject 40 c.c. of antitetanic