AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF MILITARY SURGERY AND MEDICINE.

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COLLEAGUES of the naval and military services of our own and foreign countries, and all friends who are good enough to assist in the work of this, the Section of Military Medicine and Surgery,—Allow me, in the first place, to say how sensible I am of the honourable and responsible nature of the position in which I have been placed as president of this section, and to express my thanks for the trust you have reposed in me. I accepted the office with very great diffidence, in obedience to expressed wishes which I felt I could not do otherwise than comply with. I only entertained the hope that I might be able to discharge its duties satisfactorily with the help of the eminent vice-presidents, council, and other officers of the section, on whose support and assistance I felt assured I might confidently rely.

In the second place I wish, in the name of my British colleagues, to say a word of welcome to our foreign friends, who have not hesitated to come in many instances from places at remote distances, to join in the labours of this section. We feel honoured that men so distinguished in the science and practice of naval and military surgery should have come among us, many of whom bear names that are not only household words in their own respective countries, but are familiar in every part of the world where the progress of military medical science is watched, and improvements in its practice are studied. It is a peculiar pleasure to me to welcome those of our foreign *confères* who have been able to attend the Congress; for among them are many who have been friendly colleagues at previous meetings in various parts of Europe for purposes closely akin to the objects of our present gathering—the advancement of surgical knowledge and the improvement of the means of alleviating the sufferings inseparable from a state of warfare. We hope that our foreign friends may find themselves well repaid for their journey to London on the present occasion; and that, on returning to their respective countries, they may not only feel that the part of the time which has been devoted to the discussions at the sectional meetings, and to observation of the scientific collections which have been specially formed for the occasion, has been passed profitably, but that also the time spent in our social gatherings has afforded an opportunity of renewing old friendships and forming fresh associations which will remain sources of very many pleasant reminiscences in the future.

Although this is the seventh meeting of the International Medical Congress, it is the first, I am informed, at which there has been a special section for the consideration of subjects connected with military medical and surgical practice; and yet there seems to be a wide field of work for such a section in a professional congress of the kind. Although the true principles of medicine and surgery must be true everywhere, in military as in civil practice, yet everyone practically acquainted with the conditions inseparable from service in the field knows that the application of those principles has perforce to be so modified that the modes of application themselves become a distinct branch of study. In saying this I do not confine myself to the mere physical or manual application of these principles—to the performance of a surgical proceeding in this way or that way,—I refer to matters of far more general influence. Consider how the whole range of what is generally spoken of as “conservative surgery” has to be modified in field practice from the mere influence of the circumstances by which our patients are surrounded in campaigning. How many injuries are there that would be appropriately treated in civil hospitals by an expectant method of treatment, by methods calculated to preserve the injured parts, and with good grounds for hoping to secure restoration of their function, which on numerous occasions the military surgeon would not dare to undertake, from his acquaintance with the dangers to life that such a practice would entail on his patients under the exposures, repeated changes from station to station, and other sources of disturbance to which they would have to be subjected in field practice! Remember also the special considerations which arise out of the characters and complications of the great bulk of the injuries themselves which have to be dealt with in military practice, those caused by gunshot. How

greatly, again, the constitution, organisation, the internal administration, the mobility of armies, affect everything bearing on surgical practice in them; the quantities and descriptions of surgical and medical materials that the military surgeon can have at his disposal for his patients; the amount of protection, care, and attention he can obtain for them; the means at his command for transporting them from place to place without aggravation of their injuries. How much patient thought, what prolonged examinations and trials, what experience have already been brought to bear on these subjects, and how much still remains to be done in order to attain results which may harmonise with military necessities, and, at the same time, conduce to the welfare of the patients who are placed under our charge. I may allude, further, to the many subjects for deliberation which the crowding together of bodies of troops and animals in the close quarters in which they often have to be placed give rise to; the means of warding off the diseases which such conditions are apt to engender, the means of combating and extinguishing them when they have sprung into existence. In naval professional practice, too, in ships of war, the need of special attention being given to many subjects of medical and surgical interest seems to be obvious. Although the officers and men have the advantage of being in their ordinary house and home on board ship, with its usual furniture, and many things may be carried with them that are not available to soldiers in the field, still, in modern ships of war, with their artificial light below the water-mark, artificial supply of air, large amount of complicated machinery, and limited space for movement, what a necessity there must be for special consideration regarding the means of preserving health, and of the arrangements to be made, and the means to be adopted for dealing successfully with injuries which may happen on board, especially when they occur in large numbers, as in the case of an action with the enemy. I need not dwell further on the importance of a section in such an International Congress as the present being specially devoted to subjects bearing on the pursuit of medicine and surgery in fleets and armies. A large proportion of those who are present probably have some personal experience of military practice, and, if so, already know how much advantage may be anticipated from meeting at annual intervals for the purpose of discussing special professional topics which are still involved in doubt or obscurity; for making mutually known and sifting the experience gained under varied military circumstances and conditions; for trying to arrive at definite rules of practice; and, in short, for acquiring any knowledge which may particularly conduce to the benefit of the officers and men who depend, often without power of appeal, on our judgment and skill for restoration to health in sickness, and for safety and repair when subjected to wounds and injuries. Although belonging to all nations, we have the advantage of being able to meet together without national jealousy, and with no other rivalry than that of vying with each other in endeavours to discover what may most benefit the sick and wounded. It is not with our province of thought and action, as it is in some measure with those other parts of military science and practice, on which national safety or superiority in power may depend. A certain amount of reticence in regard to them is justified by national self-interest. We can speak quite openly of all our professional plans and arrangements. If they contain any features better than those belonging to our neighbours of other countries we have no fear of imparting them. We hope, indeed, if they are really better, that they may be adopted and turned to account; for, if practically applied, our own people may possibly be among those who will be benefited by their adoption. And if we lack anything in our military hospital system which our neighbours have better than ourselves, we have no reason to suppose they will object to imparting information on the subject to us; they, in turn, may be benefited by our improvements. Neither surgeons or patients on either side can be harmed by mutual confidence in matters appertaining to technical knowledge or departmental arrangements. Even in time of war there are no enemies within our sphere of action.

The subjects on which observations are to be read at the present meeting of this section, and on which discussions are expected, are all subjects having an important bearing on naval and military surgery. I need not enumerate them, as they are already before you in the printed programmes. I will only observe that the most urgent of the questions named for debate at this meeting appears to be the manner in which the antiseptic treatment of wounds can be best carried out in time of war. This question, more or less, covers and influences many of the other subjects put down for consideration, such as the advance of conservative surgery in field practice, the treatment of injuries of blood-vessels in the field, improvements in field-hospital equipment, and several others. As you well know, the experience that has hitherto been gained in the strict application of antiseptic principles to the

treatment of wounds in the field has been obtained only under exceptional circumstances, and is, comparatively speaking, still exceedingly limited; but, such as it has been, the published results have been so largely superior, both as regards saving life and also as regards the restoration of the usefulness of wounded parts, to the published results of any other methods of treatment in the field, that, so long as this difference holds its ground, we are morally bound to try and extend the practice. All military surgeons, however, can readily perceive the practical difficulties that lie in the way of applying the antiseptic precautions and details of treatment inculcated by Lister, owing to the peculiar conditions incidental to military arrangements in time of war. It appears to me that one of the chief points to be settled, looking at the question from the point of view of military practice, is whether the action on the air by the antiseptic spray is an essential part of the treatment; whether some of the other forms of antiseptic treatment advocated by eminent surgeons are, or are not, capable of producing equally favourable results? If the action on the air by atomised antiseptics be an essential part of the proceeding, then the hope of applying it under the ordinary circumstances of warfare seems almost desperate—so free, not to mention other obstacles, is the access of air, and frequently so strong is its movement, in the field, at the dressing station, and in all tent hospitals. On the other hand, if this part of the process can be dispensed with, then the question will be greatly simplified, and attention will only have to be directed to the description of antiseptic applications and dressings which will best answer the intended purpose, and to the manner in which these dressings can be rendered available, consistently with other military requirements, when and where they may be needed, and in adequate quantities for meeting the wants of each particular occasion. Experience is not wanting of antiseptic treatment being carried out by eminent surgeons in some civil hospitals without the use of the spray at the operation table, and in other instances without its use during any part of the course of treatment; and, it has been alleged, with no less beneficial results than when the spray has been employed. It remains to be proved how far these observations are thoroughly correct, and satisfactory proof on the point can only be arrived at when sufficient experience has been collected on the subject.

I have been asked to give at this meeting an explanation of the system by which help is arranged to be afforded to the wounded among troops on active service according to the existing regulations of the British service. It has been suggested that to those who have not had occasion to study the subject this description would not only possess some features of novelty and interest in itself, but would also furnish indications of the extent to which particular modes of treatment of wounds and injuries might be capable of application under the arrangements described. In accordance with this suggestion I have brought the two diagrams which you see before you as a ready means of furnishing the explanation required.

The surgeons who are now entering the British military medical service can scarcely realise the greatness of the changes which have occurred in their branch of the profession during the last twenty-five years. When I commenced my military service, the British army was scattered in comparatively small detachments over the kingdom and in every colony. It was for the most part engaged as a safeguard for peace and good order in our own possessions, and occupied in performing duties that are now discharged by police, rather than in preparing itself for the sterner necessities of a time of war. Still more marked was this aspect of matters with respect to the army medical service. It was entirely a peace establishment; and its duties were conducted as if there were no liability to the state of peace being interrupted. Nothing was prepared for a condition of war, whether as regards plans of administration for field service, organisation of field hospital establishments, means of transporting sick and wounded during a campaign, or the descriptions of field hospital equipment to be employed. The results of the practical experience in these matters which had been gained during the Peninsular campaigns had gradually disappeared. In conducting the duties of the medical service, the attention had come to be largely devoted to economical details in small matters, which, in the aggregate, produced but comparatively trifling results; while the general system on which the hospitalisation of the sick was conducted was cumbrous, wasteful, and needlessly costly. This condition of things received a rude shock when the Crimean war occurred, and when, as the Director-General of the Army Medical Department at the time testified, without any records or patterns to guide him, everything for active service in the field, both as regards the field-hospital establishments, kinds of supplies, and forms of ambulance vehicles had to be improvised for the occasion. The break-down from want of systematic preparation which then occurred (not a break-down so far as the sur-

gical staff were individually concerned, but a break-down in respect to the establishments with which they were connected) led to prolonged investigations, which not only demonstrated the need for a thorough reform of departmental arrangements and regulations, but also showed the directions in which the changes were required to be made. The experience of successive wars on the continent of Europe and in the United States since that period has step by step led to further developments in military medical organisation for field service no less than it has done in the purely combatant parts of the army.

The principal problem which the medical department has had to solve, has been to devise a scheme by which help and protection should be afforded speedily and effectively to the wounded over the large area which modern battles in Europe now usually occupy, and to provide for their subsequent treatment so long as circumstances may render their stay on the theatre of war a matter of necessity; one, at the same time, which should be capable of being modified and adapted to all the varying conditions of warfare—that is, variations as to features of country, difference of climate, seasons, numbers of troops engaged, opportunities of shelter, and other such matters; that should not only not impede, but, on the contrary, should work in harmony with all the other military arrangements; that should be economical in regard to the number of officers and men employed; that should include an equipment which, while adequate to the needs of the hospital service, should not exceed the means of transporting it; and lastly and particularly, a scheme that as regards the *personnel* necessary for the field-hospital and ambulance duties, should be little more than a redistribution of the *personnel* ordinarily employed in the stationary hospitals at home; so that, acting as a peace establishment as long as peace might last, the *personnel* should, at a very short notice, be capable of being organised and arranged into the different parts composing the war establishment.

The plan adopted for accomplishing these various objects may, for description, be conveniently divided into two parts—viz.: (1) that for the medical service from the base of operations to the limit of the area of active operations of the army in the field, and (2) that for the medical service with the army itself. The hospital establishments belonging to these two divisions of the medical service are shown separately in the two diagrams. They are mutually in a great measure independent of each other, although connected and working in concert; and they differ in their qualities, administration, and in many articles of their equipment, although the officers and men of the army medical department serving in them are interchangeable. The establishments at the base of military operations and along the lines of communication with the army have more or less of a stationary character, while the others are organised for being as moveable as the troops which they accompany.

In making a survey of these establishments it must necessarily be a rapid and rather superficial one. It will be convenient, perhaps, to start from the base and to follow them to the front, so far as the establishments along the lines of communication with an army in the field are concerned.

The insular position of our country leads to complications in the medical preparations for war from which continental nations are for the most part free. The officers and men of the medical service must at first be conveyed in detached bodies on board ship, as well as the hospital stores and equipment. The vehicles which are to convey the stores, as well as the carriages for the wounded, must be made capable of being folded up into convenient packages for being carried by sea to the place where the army is to be formed before commencing its operations. Continental armies can generally move in their accustomed ways, and concentrate their forces in a convenient place on their own frontiers. Wherever a British army may be despatched for hostile purposes, whether it be on part of a coast belonging to a friendly ally, or whether it be a position secured by force from a hostile power, the establishment of a new hospital in the place is one of the first necessities experienced. It is required at once to receive the sick and hurt who have accumulated in the transports during the voyage from England, and will be wanted to receive the casualties that are sure to happen while the force is being collected and formed prior to starting for the special purpose of the expedition. It is required for the reception of all the medical and surgical stores that have been brought from England for use during the campaign. If the position is retained as the base of operations, the hospital thus established will continually grow in importance as long as the campaign lasts. When once the military operations are in progress, a large proportion of the patients that result from them will find their way ultimately to this hospital, and here they will be disposed of, whether they are sent back to activity in the field or are invalided to England. Again, as the military operations approach their termination, and other hospitals

that have been formed successively in advance are broken up, their occupants will fall back upon this base hospital, so that it will be the last medical establishment to be closed as well as the first to be opened in a campaign. The base hospital is consequently required to have a more permanent character than other hospitals in the field. Some available buildings are usually secured for its occupation, and these may be supplemented by subsidiary buildings or encampments, according to circumstances. The administrative as well as the executive staff are large in number, especially the executive staff, not only on account of the extent and variety of the duties to be performed, but also because it is the principal position where reserves of medical officers can be conveniently retained for replacing casualties in the field, and for supplying the demands which the military movements occasion.

As soon as the army quits the place of rendezvous and commences its march, casualties will occur of various kinds, and often in larger numbers than might be anticipated by those who have not studied the experience of such occasions. While comparatively near to the base, those that become disabled can be sent back to the general hospital established there, but after the troops have advanced to some distance, this would be inconvenient, and fresh hospital establishments have to be opened at suitable positions along the roads which the troops are following. These then become the stationary field hospitals along the lines of communication, or, as they were formerly called, the reserve or intermediate field hospitals. They are placed in situations which are not only suitable as regards sanitary considerations and hospital needs, but also as regards safety; in positions which the military authorities believe to be safe from incursions of an enemy, and from which the communication with the front in one direction, and with the base in the other direction, may be expected to remain secure. They may be established in buildings, in villages or towns, or camps near them, or near railway-stations. The equipment allotted to each of these hospitals is very similar to that of a field-hospital, only differing in having an increased quantity of hospital clothing, and in not being supplied with special transport vehicles.

In front of the stationary field hospitals, between them and the movable field establishments, is the "advanced depot." At this station, a supply of medical and surgical supplies and appliances is stored, ready for issue to meet wants in the bearer companies and movable field hospitals. This is the station, too, to which the sick and wounded are brought from the field by the bearer company's ambulance waggons, and from which they are forwarded by vehicles obtained from the commissariat department to the stationary hospitals along the lines of communication with the base.

These comprehend the establishments between the area of active military operations in the field and the base. The duties to be performed, so that the patients in the stationary field hospitals may have their wants properly attended to, so that there may be no interruption of the movements of men and materials between the field and the base to and fro, are so onerous and important that they are placed in the separate charge of a particular surgeon-general named for the purpose, as the military duties are in that of a general officer distinct from the general commanding the troops in the field. A surgeon-general acting under the orders of a general officer commanding the lines of communication has the special direction of all the medical duties along the lines and at the base. He is responsible to the surgeon-general-in-chief of the army for their regular fulfilment. The hospitals and the movements of sick along each road of communication are supervised by a deputy surgeon-general, acting under the directions of the commandant of the road. The charge of the advanced depot is placed in the hands of a surgeon-major. At the base are three deputy surgeons-general, whose respective duties are indicated on the plan before you. It is at the base hospitals and in the stationary field hospitals along the lines of communication with the army that the regulations direct all civilian surgeons and other persons affording voluntary aid to the sick and wounded to be employed.

The establishments with the army actually operating in the field must now be glanced at. They are of three kinds: (1) The regimental establishment. (2) The bearer company. (3) The field hospital. It will be more convenient to trace these from the front to the rear, from the fighting line to the line of the field hospitals, this being the direction in which help has to be afforded by them on the occurrence of an action with the enemy.

The first surgical establishment belongs to the battalions and other bodies of troops composing the brigades and divisions of the army, and is of a very spare character. It is only organised for giving temporary help during halts of the troops on the march, or, in case of action, affording such primary aid to the wounded as may be necessary before the second establishment, the bearer company, can reach the spot. Each corps has a surgeon with it, and two men of each company are

trained as stretcher-bearers. These form the corps field surgical staff. The ordinary equipment consists of two "medical field companions," cases containing surgical materials and medicines, carried by straps over the shoulder, two water-bottles per company, and a stretcher per company, carried in the company cart. In case of a corps being detached on outpost or other duties, larger cases, field panniers, carried on the backs of pack animals, and other equipment, according to circumstances, are supplied.

The second establishment, the bearer company, is the most important source of aid in case of the occurrence of an action, and is very fully and carefully equipped for its duties. It comprises the means of performing all surgical operations of urgent necessity, and of applying surgical dressings and giving preliminary aid to all wounded, wherever they may be met with, before their removal to the field hospitals in the rear. It is specially organised for giving this aid in a systematic manner at certain important stations: in the immediate rear of the fighting line—at places to which the badly wounded are first carried, and where they can be transferred to wheeled conveyances—and at the established dressing stations. It is by the bearer company that the wounded are removed from help-station to help-station, on stretchers from the place of fighting to the transfer or collecting station, by ambulance-waggons from the transfer to the dressing-station, and again from the dressing-station to the field-hospitals, and from them again subsequently to the advanced dépôt. To accomplish all these purposes, each bearer-company in the field has a considerable *personnel*, over two hundred in number, allotted to it—medical officers, officers of orderlies, transport officer, men of the Army Hospital Corps, stretcher-bearers, drivers, and artificers. The details of these establishments may be found in the Code of Army Medical Regulations. The equipment is also large, and includes all the supplies for forming the dressing-stations, performing the necessary surgical duties, supplying medical comforts, the ambulance conveyances, and a variety of articles, the lists of which are also laid down in the Medical Regulations. Each bearer-company is divisible into two "half-bearer companies", with *personnel* and equipment complete for its duties. The whole company is under the command of a surgeon-major. Four such companies constitute a bearer-column, the complement for an army corps; and one of these companies has its transport and equipment adapted for work in a mountainous country, where wheeled transport could not be employed. The command of a bearer-company is a very responsible one: the movements of the company, whether in marching with troops, in camping, or in discharge of its special functions on the occasion of an action, have to be conducted with the same military discipline and precision as the movements of all other parts of the army; the bearers must be drilled and exercised in the proper modes of carrying the wounded, and both they and the men of the Army Hospital Corps must be taught and practised in the modes of rendering first assistance in the absence of surgical aid. All this constitutes part of the work which is now systematically done in the Army Hospital Corps Training Depot at Aldershot. I may here mention that arrangements have been kindly made by the principal medical officer and the medical staff at Aldershot, to receive a certain number of visitors who may wish to attend the bearer-company exercises at that station on the 6th instant. It is all the more important that the duties of the bearer-company should be performed with thorough efficiency, especially as regards the preliminary dressing and treatment of the wounded, as, owing to the great range of modern projectiles, the field-hospitals, as shown by modern experience in European warfare, are often established so far away from the place of conflict, that many hours may elapse before the wounded in the transport vehicles will be able to reach them and get fresh surgical help. This is especially liable to happen when an action only ceases as daylight is declining, and the roads between the battleground and the places where the field-hospitals have been established become encumbered by military vehicles of all sorts, as well as by the movements of troops.

The field-hospitals remain to be noticed. A great deal of thought has been given to the proper constitution of the establishments so as to combine qualities of portability and readiness at any time for use with the requisite efficiency. A field-hospital must be so arranged as to be always within reach of the troops; ready for reception of the wounded from the bearer-company, shortly after the occurrence of an action, with all requisite means for their protection, care, and treatment, for at least several days, if necessary; and it must be capable, as soon as the patients have been removed from it to the advanced dépôt, to be quickly packed up again and ready for further movement forward, so as to be available for the reception of a relay of patients in case of another action with the enemy. The field hospital, as now arranged in the British service, is fitted for the reception of 200 patients. The requisite number of tents, each calculated for four patients, is carried for accommodating

the whole number, but if a farmhouse with out-buildings be available, or suitable houses in a village can be obtained, the tents would probably not be employed. Each field hospital has its *personnel*, equipment, and transport so arranged, as to be capable of division into two half-field hospitals complete for 100 patients. Twelve field hospitals form part of each army corps, two being allotted to each division of the army corps, the remaining six being reserved for disposal wherever they may be specially needed. In addition to four store waggons for the ward and cooking material and medical stores, four for tentage and equipment, and two water-carts, each movable field hospital has two pharmacy waggons, containing a complete equipment of instruments, surgical appliances, medicines, and means of dispensing them, with a stock of medical comforts. The contents of the waggons, and modes of packing them, the order to be observed on the line of march, and the plan of encamping a field hospital, with other details regarding such establishments, may also be found in the Army Medical Regulations.

It will be seen from the account I have just given that the regulated plan of medical and surgical assistance for troops on active service is a very complete one, and that it anticipates all the wants that are likely to occur during a campaign. It is obvious that, to carry out the arrangements when the strain of a general action occurs, and help is demanded for a large number of wounded, previous training, intelligence, and active exertion on the part of all concerned, will be necessary for success. An adequate staff is provided by the regulations for the purpose. In addition to the special surgical and subordinate staff of the field hospitals and of the bearer companies, the surgeon-general-in-chief with the army corps has a deputy as a field-inspector, whose duty it is to see that the circulation of the system of help is properly maintained, two orderly medical officers, and other officers to assist him in his charge. Each division of the army has a deputy surgeon-general at its headquarters, and each battalion and separate corps its surgeons. In all these arrangements, the calamity of a state of warfare in Europe has been particularly had in view. But even in other parts of the world, even in half-civilised countries, the general principles of the system can be maintained; the manner in which they are carried out has alone to vary, according to the nature of the military operations, the condition of country, and other local circumstances.

The sketch I have laid before you of the existing arrangements for ensuring systematic help and skilled attention to the wounded in case of this country unhappily becoming involved in war, has been unavoidably a superficial and imperfect one, and I must apologise for its incompleteness. The description, short and partial as it has been, may, however, not be without some advantage, if it has succeeded in conveying a general idea of the arrangements under which any particular system of treatment, whether the strictly antiseptic treatment of wounds, or any modification of it, will have to be applied among troops when on field service.

MAIDSTONE.—The report for this borough, despite some minor blemishes, is one of general excellence. It is compact in form, methodical in arrangement, and possesses the conspicuous merit of being written on the lines set out by the Local Government Board. The total number of births was 957, and of deaths 557, equal to rates of 31.34 and 18.83 per 1,000 respectively. Of the total deaths, 9 are attributed to measles, 6 to scarlet fever, 8 to whooping-cough, 6 to typhoid fever, and 38 to diarrhoea. With a view of ascertaining the causation of this last disease, Mr. Adams made a minute inquiry, and states the result of his observations as follows. "Putrescent changes and improper food are the chief factors in the production of this disease; the changes being set up by high temperature and the miasma which abound in urban districts in the summer season.... Experiment and observation have demonstrated that during hot weather putrescent changes are most prone to occur in farinaceous foods, after them in Swiss milk, less so in cow's milk, and least of all in breast-milk." He adds that, considering how careless the poor are in cleansing the feeding-bottles so universally used, "it almost amounts to a practical certainty that the deaths from infantile diarrhoea are chiefly due to fermentive and putrescent changes in the improper foods administered." During the year, the borough was visited no less than four times by small-pox, the origin of the first outbreak being traced, with some show of probability, to a girl working as a rag-cutter in a paper-mill. The sewerage scheme progresses somewhat slowly. A step in the right direction appears to have been made in regard to the removal of house-refuse; but it is to be hoped that a system of regular and periodical collection of such refuse will be adopted. Referring to the water-supply, Mr. Adams makes amends for the inadequacy of information in previous reports by including a short statement on the subject. The cottage-hospital proved itself of great value during the year in preventing the spread of infectious disease, though the accommodation is miserably deficient for the requirements of the borough.

AN ADDRESS

DELIVERED AT THE OPENING OF

THE SECTION OF MATERIA MEDICA AND PHARMACOLOGY.

By PROFESSOR FRASER, F.R.S.,
President of the Section.

GENTLEMEN,—The Section whose work we inaugurate to-day is devoted to the subjects of *Materia Medica* and *Pharmacology*. The occasion of our meeting is one on which we have every reason to congratulate ourselves. The International Medical Congress meets in this country for the first time, and affords an opportunity, which has never before been equalled in Great Britain, for personal intercourse and exchange of ideas between men from every country in which the study of medicine and of the science of life occupies an intelligent position.

The vastness of this study, the many subjects of separate interest which it includes, and the unfortunate limitations in the power of the human intellect, have necessitated its subdivision into many departments, one group of which has been consigned to the charge of this section.

I have purposely used the word group, as the title of our section shows that it embraces not one but several subjects. The words "*Materia Medica*" no doubt imply a description of the agents used in the treatment of disease; but this description is not restricted to the physical proportion of these agents, for it includes also their actions and their uses in disease. The department of *materia medica* encroaches, therefore, on the one side upon the science of physiology, and, on the other, upon the art of treating disease; while it concerns itself, at the same time, with physics, chemistry, botany, and zoology.

This "many-sidedness" has led to the introduction of special terms applicable to the chief subdivisions, and as each subdivision deals with questions which are distinct in themselves, it has become individualised not only by a separate designation, but also, in great measure, by forming an independent subject of study and investigation.

The introduction into the title of our Section of the word *Pharmacology* illustrates the necessity which has now arisen for this subdivision. To this word we no longer assign the old significance which it bore as a mere synonym of *materia medica*. It now implies the science of the action of remedies, and it accordingly deals with the modifications produced in healthy conditions by the operation of substances capable of producing modification. The methods of investigation which it requires are totally distinct from those followed in the study of either pharmacy and pharmacognosy, and so it is that the specialist in this subject may have but little knowledge of pharmacy or pharmacognosy, and may never concern himself with the investigation of their problems. On the other hand as pharmacology constitutes the chief bases for the application of remedies in disease, it closely allies itself to therapeutics, and constitutes the most important connecting link between *materia medica* and the art of medicine.

In this section we cannot with propriety concern ourselves with therapeutics. It is so inseparably related to the etiology and pathology of disease that the advantages to be gained by a subdivision of medicine into separate departments would be annulled were our section to deal with it as a separate subject. The remaining subdivisions of *materia medica* are those to which our attention may best be devoted. To each of them, however, an equal amount of attention would not be appropriate. It will, I think, be generally admitted that, on account of some of the considerations I have referred to, and while fully recognising their practical utility and importance, pharmacy and pharmacognosy are probably sufficiently represented in our programme by the proposed discussion on an International Pharmacopoeia. In this discussion the section are to have the advantage of an expression of opinion from Professor Eulenburg, of Greifswald, and I hope also from several of the distinguished pharmacists who are now conducting an International Congress in this City with a success we must try to emulate, and many of whom, I am glad to say, are to favour us with their co-operation as extraordinary members.

Our programme chiefly contains subjects for discussion which are drawn from pharmacology, and I trust that the consideration of the various important subjects that have been selected for discussion, and of the facts that are to be laid before us in other communications,