of a narrow cavity, and soiling is somewhat difficult to avoid. Nevertheless, most gratifying results can be obtained.

As to the most suitable incisions for these operations, it may be accepted that the paramedian is the best for growths in the transverse colon or sigmoid. For growths in the

FIG. 3.—Growth of descending colon, showing the defect in the shadow.

flexures or lateral parts of the colon the oblique incision, also advocated by Rutherford Morison, gives good access. It is much better than a vertical one through the outer part of the rectus sheath.

I have only spoken of radical extirpation of the growth. This is possible in a little more than one-third of the patients coming to St. Mary's Hospital. When the condition has advanced too far for excision, great relief may be afforded by relieving the obstruction, preferably by a short-circuit, perforce by an artificial anus. The rule about short-circuiting is that care should be taken not to exclude entirely the portion of the bowel between the ileocaecal valve and the growth. Such an isolated segment of the bowel will gradually dilate and ultimately burst.

The Results of Operative Treatment.

It is generally accepted that the surgery of cancer of the colon gives results better than those which can be obtained in some other regions of the body. Those who would like to know what can sometimes be effected in advanced cases should read Grey Turner's interesting book *Some Encouragements in Cancer Surgery*. Körte, in 1913,⁴ collected the records of 434 cases. Of these, 61.3 per cent. survived the operation and 38.3 per cent. lived over three years—that is, one-half of the survivors of the operation were in a fair way to being considered permanently cured. Paul⁷ reported 46.66 per cent. of three-year cures. R. T. Miller⁸ found that of those patients surviving excision 28 per cent. were alive after five years. But he points out that a considerable number of recurrences take place after the five-year period, so that the ultimate results must be less favourable. This is rather the impression I have got from my own cases. Kuttner⁹ gives the final results as only 10 to 12 per cent. cured, whilst Majerus¹⁰ reports that of 43 radical operations 8 patients were alive three years afterwards—that is, 18.6 per cent. Amongst his cases one recurrence took place at four years and one at eight, so that the final recovery figure would more nearly agree with that of Kuttner.

The early impressions obtained as to the success in surgery of cancer of the colon have to be modified somewhat in the light of further experience. But the answer as to whether surgery in this condition is justified is undeniably

that it is. Survival over three years is common, and up to five years not infrequent, and this in a disease which is quickly fatal once obstruction has come on. Many victims are at the time of life when they cannot expect to live for many years. They get immediate relief and prolongation

FIG. 4.—Radiogram taken seven months after removal of growth. Axial anastomosis by rotational method. Same case as Fig. 3. Note how mobilized splenic flexure has been lowered to effect the junction.

of life in comfort. Gloomy as the outlook of a carcinomatous patient is, when the disease attacks the colon there is indeed hope in surgery.

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SAVE THE WOMEN AND CHILDREN.*

BY

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FROM time immemorial it has been the proud tradition of Englishmen, wheresoever scattered over the face of land—or water—in the presence of danger, to rally to the cry, "Save the women and children." Such a cry has become part of our common language. Let it be the slogan of the medical profession.

Every year some 700,000 women in this country pass through the pangs of labour, and of these 3,000 never leave their beds again except in a coffin. Such is the appalling sacrifice made by our women in the performance of a physiological act, and in that of the primary object of their sex—the provision of healthy citizens for our nation. Most of these women were in good health up to the time of their pregnancy or confinement; most of them were young and had very many years of active and useful life before them.

Since 1900 the infant mortality, after the first month, has fallen from 154 to 69 per 1,000 live births. The general death rate of all persons at all ages has fallen. The death rate from all causes of women from 15 to 45 has fallen, but the maternal mortality, and the infant mortality at birth

* The substance of an address to the Metropolitan Counties Branch and to the West Dorset Division of the British Medical Association.

and during the first month of life, would appear to have remained stationary. During the last twenty years the maternal mortality has kept at about 4 per 1,000 births. The prospective mother, therefore, is seriously handicapped in comparison with other members of the community.

If we examine certain tables in the Registrar-General's report dealing with the causes of death we find those due to the results of child-bearing come third on the list; and if we examine the table dealing with the causes of death during pregnancy, labour, and the puerperium we find that sepsis comes first, toxæmia second, and hæmorrhage third, and that these three account for the very great proportion of lives lost. In other words, most of the women who died last year as a result of child-bearing ought to be alive to-day. If 3,000 women died, how many, escaping with their lives, had their health ruined, were rendered sterile, or suffer from some other disability? How many of them will have to submit to some operation, with a certain percentage of deaths? In the case of the children also, how many of those who survive their birth are during its process injured for life? Apart from such a mortality, there is every year added to the community a vast number of women who have to bear the burden of ill health and suffering, and numbers of unsatisfactory children who, instead of being an asset to the nation, will be a source of nothing but trouble and expense. Truly the slogan of the medical profession should be "Save the women and children."

Such a serious maternal and infantile mortality must be prevented. The Bible teaches us that we should be importunate, and it is only by all of us, in season and out of season, preaching the doctrine that these lives should be saved that, in the end, they will be saved.

I will deal with this subject under four headings: (1) Educational, (2) Ante-natal, (3) Intra-natal, (4) Post-natal.

EDUCATIONAL.

The medical student, the pupil midwife, the medical man, and the laity all have to be educated in the subject under discussion. A medical student in the past was badly educated in the subjects of midwifery and gynaecology. The amount of time he was required to give to the study of midwifery was deplorably short of what it should have been. That the teachers are not entirely at fault is obvious, since they have not had the facilities to teach midwifery and gynaecology. The responsibility for this inefficient teaching in the past must rest with the various examining bodies, who have had it in their power to prescribe what rules and regulations they deem right. Medical men in the higher ranks of the profession have failed, until recent times at any rate, to realize that the science and practice of midwifery is as important to the general community as that of medicine and surgery, and as a fact even more so. This is reflected in the regulations of the Royal Colleges, which do not insist that there shall be a definite proportion of medical men familiar with the teaching and practice of obstetrics on their councils.

The majority of students when they go into practice are not going to operate, and yet before they can sit for their final examination in surgery they have to spend three months in the out-patient and six months in the in-patient surgical department. The majority of students are, however, going to practise midwifery. The General Medical Council has made a regulation that after January 1st, 1923, a student must have obstetric and gynaecological experience in the wards, must be signed up as having attended regularly all the departments of the maternity and gynaecological units for three months, and must have attended five labours conducted by a teacher or member of the staff of a lying-in hospital or of the maternity department of a general hospital before attending the remaining fifteen. This wise action of the General Medical Council will, I am sure, lead to a great improvement in the practice of midwifery, because the future practitioner will be taught by this experience to realize within what limits normality lies. He will thus be able to diagnose better impending or present dangers and difficulties, and he will, moreover, not be tempted to interfere when he should hold his hand. The medical student is allowed by the Conjoint Board to sit for his examination in midwifery a year before his final examinations in medicine and surgery. This has led to

generations of students regarding midwifery and gynaecology as unimportant subjects from an examination point of view. Moreover, however willing a teacher may be to instruct his students, he has not had the proper facilities. More maternity beds are required, either in the general or lying-in hospitals.

There is a great danger of pushing the scientific education of the average student too far. Our students have now so many subjects to master that they are apt to forget that there are such things as wards with patients in them. What the student requires is more practical teaching at the bedside, at any rate in midwifery. He should be able to diagnose most of the emergencies of pregnancy and labour just as easily as he is taught to diagnose most of the medical and surgical emergencies.

Then the education of pupil midwives is still far from satisfactory. How important it is that the midwife should be well educated is, I think, shown by the fact that some 70 per cent. of the pregnant women are attended by midwives. There should be more post-graduate courses for midwives. All local authorities would be wise in encouraging the midwives practising in their districts to attend such courses, and should give grants for the purpose.

The education of the laity is already taking place through the medium of various voluntary societies dealing with mothercraft and infant welfare. The approved societies are bestirring themselves, and, more and more, married women are getting to know about ante-natal supervision, and to expect it.

ANTE-NATAL.

Labour, which is a physiological act, just as much as defaecation and micturition, in the vast majority of women only becomes pathological when they have been deprived, by their attendant or because of their own carelessness or ignorance, of ante-natal supervision. Medical students and pupil midwives should be taught that pregnancy is for women a normal state of health, but that since she is harbouring a child her metabolic functions may be stressed, and so she requires careful supervision.

Ante-natal supervision and treatment can abolish all the catastrophes of contracted pelvis; it can, by reducing the number of difficult labours, minimize the dangers of manipulation and infection. It is fair to say that it can practically abolish eclampsia. It can in many cases prevent women, the subjects of organic disease, such as that of the heart and kidneys, from being worse as the result of their pregnancy. It can ensure a greater percentage of births of live and healthy children. It can prevent an enormous amount of suffering and disability and many deaths which are attributable to childbirth. In the report of the Scottish Departmental Committee it is stated that in the histories of 10,000 gynaecological cases it examined, 2,800 had relation to previous pregnancies and labours.

By ante-natal supervision such conditions of local infection as oral and nasal sepsis, sores and boils can be treated, themselves undoubtedly in many cases the source of puerperal sepsis. And yet the majority of pregnant women in our country have no ante-natal supervision of any kind. Nevertheless, the public is getting to know more and more concerning the benefits of ante-natal treatment. After all, ante-natal supervision is a very real aspect of public health. Medical students should spend at least three months studying the normal pregnant woman, so that when they go into practice they may be able to detect, early in labour, any sign of abnormality. It is because, in the past, the average medical student has not been sufficiently grounded in the normal results of impregnation that he fails, when he goes into practice, to realize as well as he should what may be left to Nature, and in what circumstances he should lend her his assistance. As a result he may be tempted to interfere with Nature when he should not, and so we have perhaps one reason why the maternal and infantile mortality and morbidity would appear to have remained stationary during the past twenty years.

Next we come to pupil midwives. The Central Midwives Board by its latest regulations proposes, as far as it can, to remedy the lack of ante-natal training by stipulating that these pupils shall have more ante-natal experience. Midwives must be taught to insist, as far as they are able, that

all their patients should have ante-natal supervision, either at an ante-natal centre or by a doctor.

Lastly, as to the role of the laity in regard to ante-natal treatment. By propaganda pregnant women must be taught that such supervision is not only imperative but their right. The medical profession must never cease its efforts until every pregnant woman realizes the importance of such supervision. There are so many ante-natal centres now that most women, when they cannot afford to pay a doctor his fee, can obtain free advice. The officers in charge of such centres should communicate, when necessary, with the doctor or midwife who is going to attend the patient. At present this practice, I am afraid, is not followed nearly as often as it should be.

Research work in the physiology and pathology of child-bearing should be encouraged in every way possible by grants from the Ministry of Health and other authorities; but if pregnant women do not take advantage or are not persuaded to take advantage of ante-natal supervision, of what use is this research work? We cannot compel all pregnant women to submit to ante-natal supervision, human nature being what it is. Can we persuade the majority of women to do so? I have given much thought to this question, and it seems to me that the majority of pregnant women may practically be persuaded to do so. If the payment of the maternity benefit was made conditional on the woman presenting a certificate to the effect that she had attended an ante-natal centre, or had been examined by a medical practitioner, during at least the last month of pregnancy, I am certain that the present maternal and infantile mortality and morbidity would be appreciably diminished. The highest maternal and infantile mortality rates in England and Wales are found in districts in which there is least ante-natal supervision.

Ante-natal supervision must include not only attention to the health of the individual, not only the detection of abnormalities which for the moment do not trouble her, such as a contracted pelvis or malposition of the child, but an inspection of the home in which the confinement is to take place. For though an environment of dirt and squalidness is not such a menace to normal labour as we might suppose, yet if the labour should chance to be abnormal then the scales of recovery are heavily weighted against the woman. Especially is ante-natal supervision important to primigravidae. Apart from the fact that none of them have had a trial labour, and the attendant, therefore, has no previous history as a guide, eclampsia, the evidence of which can be detected by an examination of the urine and certain premonitory signs, occurs 70 times out of 100 cases in first pregnancies, and has a death rate of 23 per cent. in women and 50 per cent. in the infants. I take it that all medical practitioners to-day are in full accord as to the value of ante-natal supervision—nay, as to its absolute necessity. Some of them, nevertheless, are perhaps not so whole-hearted on this question as others, because in their own particular environments the provision of such a protection for every pregnant woman, or even for the majority of pregnant women, seems hopeless. I would like, however, to stress this aspect of the case. If ante-natal supervision is neglected by the general practitioner, it will certainly not be by the Ministry of Health, the medical officers of health, or by the ante-natal clinics. It is up to the family doctor to see that this essential part of his family work is not taken out of his hands. None can help him in this respect except the Almighty, who, as we have been taught from our childhood, is prepared to help those who help themselves.

NATAL.

What relation have the circumstances attending the birth of the child with the subject we are discussing? The environment of the patient may not be of such importance as, on the face of it, one would expect. Some of the worst cases of puerperal sepsis occur in women who have never been submitted to an internal or any other examination. It is true that large numbers of women pass through a normal puerperium in spite of much and repeated manipulation at their confinement. But these facts cannot be taken to indicate, as many would have us believe, that the environment of the patient is of not much importance, that puerperal sepsis is mostly autogenous, and that the

best thing for the woman and child is to terminate labour as quickly as possible after the first stage by the use of the forceps and by the untimely expression of the after-birth. Experience and statistics, which, as Moynihan has remarked, sometimes tell the truth, prove entirely the contrary.

It is possible that women whose normal habitat is that of dirt and neglect are more immune to the invasion of the bacteria of puerperal sepsis, and as the majority of labours are normal, and attended by midwives, the incidence of puerperal sepsis in their case is not so great. But supposing such women are subjected to operative measures, then the results, if they could be collected, would be infinitely worse than those following such operative measures in more favourable surroundings. There can be no better indication of the great necessity for more maternity beds. A doctor when he has a poor patient suffering from some severe medical or surgical complaint is able to send her at once into a hospital or infirmary. But not by any means can he do so in the case of a woman in difficult labour. He may try to get her into hospital, but there may be no maternity beds available, and he has to proceed to operate upon the patient. It may be impossible for him to obtain proper assistance. He cannot obtain a sterilized outfit unless he provides such himself. Moreover, in better surroundings the doctor has, in many cases, the relatives to contend with. In what other condition necessitating medical or surgical treatment is a doctor expected to exercise so much skill or devote so much time for such an inadequate fee? The public must be educated in this respect.

The remedies for this state of affairs are more maternity beds; the provision by the local authorities of sterilized outfits for labour, the setting up in each district of a panel of medical men, to be paid by the local authority if the patient cannot pay, who have had special experience in midwifery practice and upon whom the doctor can call for assistance if he wishes. Even if the local authority has not the funds for such assistance, as a commercial proposition such a panel should appeal to the approved societies.

Although it is true that some of the worst cases of puerperal sepsis are autogenous, it was proved conclusively that 75 per cent. of the cases of sepsis dealt with at the British Congress of Obstetrics and Gynaecology held in London in April, 1925, were associated with repeated internal examinations, and injuries resulting from operative midwifery. And what about the after-results? Men in charge of gynaecological departments can answer this question.

POST-NATAL.

From the post-natal point of view the question must be studied in two aspects—the immediate and the remote. It is an acknowledged fact that a large percentage of the diseases peculiar to women, resulting in a certain number of deaths and a great amount of suffering and disability, owe their origin to the fact that the patient has given birth to a child. It is deplorable to think that the results of a physiological act should in so many instances result in some pathological condition; that a woman who does her duty by providing citizens for the nation should be thus handicapped, as against one unwilling to do her duty. Think of the number of women whose health is ruined for life as a result of child-bearing. In the year 1920, 5,413 women died, and six out of seven who died under the age of 35 in the United Kingdom died from causes incidental to child-bearing.

And, lastly, as to the immediate post-natal supervision and treatment. This is the most difficult question of all, and, in a way, the most important, since the medical profession is nowadays entirely in accord with the importance of medical education, ante-natal supervision, and intra-natal care. It is when we come to discuss the disease of the immediate post-natal state that the difficulties arise which are, to many men, insuperable or apparently insuperable. Of all the deaths attributable to childbirth, puerperal sepsis claims by far the largest number of victims. As someone has remarked, there are two things known for certain about puerperal sepsis: one is nothing, and the other is that the medical attendant will be blamed. There is a certain amount of truth in this statement. The

bacteriology up to a point is known; the streptococcus is practically in all cases the *fons et origo*, but it may be that there is a special variety of streptococcus peculiar to puerperal sepsis. What do we know about the predisposing causes of puerperal sepsis; of the immunity of the normal pregnant woman; of how to assist this immunity; of how to recognize if this immunity is failing? What increases the virulence of the organism which has been lying harmless on the vulva or in the vagina of a woman up to the time she gives birth to a child? Why does a method of treatment appear to be specific in one case and absolutely useless in another? We cannot answer these questions. Reports which are issued from time to time leave no doubt in the mind of the reader that puerperal sepsis is frequently due to lack of ante-natal supervision, to faulty technique at the time of the confinement, or to careless nursing. But, after all, such reports deal with comparatively few cases. Granted that in the cases dealt with such a conclusion is justified; some men never wear gloves, never trouble about or cannot obtain sterilized outfits, have a large percentage of operative midwifery in their practice, and yet from their statements do not appear to get more puerperal sepsis than their very careful fellow practitioners. No one would be rash enough to contradict the statement that the more care that is taken the less likelihood there is of infection.

The plague of puerperal sepsis must be dealt with here and now. The Divisions of the British Medical Association should hold meetings and discuss the question, and the Divisions should appoint representatives to attend a joint meeting of the Association further to discuss the question. Research work should be organized by some competent authority; and here I think perhaps the crux of the whole question lies. Any man, or body of men, engaged in research must have all the information it is possible to obtain. Much of this information can only be obtained by a new and thorough system of notification. The present state of notification is absolutely hopeless. Fothergill collected the statistics of notification in 204 areas. In 93 of these areas the total deaths from puerperal sepsis were more than the total notifications of puerperal sepsis. He also reckoned that in these 204 areas there should have been thirty times as many notifications as deaths. There were only twice as many.

There are many reasons why at present notification is in such a hopeless state. The term "puerperal fever" required by the notification is one that makes many practitioners hesitate to notify, so are those of "puerperal sepsis" and "puerperal pyrexia." Such terms to the lay mind are apt to convey the impression that the illness is due to the doctor or midwife. It takes a lot of courage to make such a notification. The relatives know of it, the medical officer of health knows, and he, indeed, may be practising in the same neighbourhood. In many cases the man is apt for these reasons to attribute the rise of temperature to influenza, constipation, and so forth. A vast number of cases are only mild in nature, and the medical attendant persuades himself that his diagnosis was correct, and that the patient never had puerperal fever. As long as puerperal fever is considered by the laity to be due to bad midwifery, notification will remain a farce. Again, there never has been, perhaps there cannot be, any exact definition of what is really included in the terms "puerperal fever" or "puerperal sepsis." Many a general practitioner does not know whether he should notify a particular case or not. Doctors do not hesitate to notify tubercle, small-pox, scarlet fever, measles, and so on; they know they will not be blamed.

And then, what good comes of notification except for statistical purposes? In the case of the midwife, it is true that she is carefully supervised and has to conform to certain regulations of the Central Midwives Board which deal with the preventive treatment for other patients; but the medical profession is not concerned in these. If a doctor notifies a case of puerperal fever, does he by right obtain any assistance? None whatever. All his report does is to swell the statistics of the medical officer of health.

A new definition is required for purposes of notification. What is required is a term comprising a state of the patient, quite easily diagnosed, and one which practitioners will be willing and ready to notify, and which can be notified

at once, irrespective of whether it is due to sepsis or not. Such a term as "fever during the puerperium" might fill the bill. As it includes any febrile condition occurring in a puerperal woman, and does not involve any theory as to its cause, it would not arouse any suspicion of incompetence in the attendant, and would not necessitate any delay until a complete diagnosis could be made. It is most important that cases of puerperal fever should be identified at the earliest possible moment if the patient is to have the best chance, and the diagnosis is often most difficult in the early stages. Moreover, an early diagnosis means less danger of the disease being communicated to others. The doctor is often called in too late. There would be no need to make a diagnosis of puerperal fever or of any other disease, but simply to notify the case if the temperature was 100.4° or over for more than twenty-four hours.

A large number of the infections in puerperal fever are of a mild nature; yet very many of these mild infections are followed by ill health and sterility, which might have been prevented if appropriate advice and treatment could have been obtained. Also, such mild cases have a danger peculiarly their own, since infection of other patients is perhaps more likely to occur, and it is known that the virulence of an organism may be very greatly enhanced by transplantation from one patient to another. If a medical practitioner could notify without running the risk of blame, and if, having notified, he could obtain appropriate help, then notification would not be the farce it is to-day. Such a notification as I suggest would mean more clerical work for the practitioner, and many objections could be advanced against it. But the advantages that would accrue to him personally, and the immense advantage that would accrue to the community as a whole, would outweigh all the disadvantages. Naturally he would be paid for the certificate. He should then have at his disposal the services of an expert opinion, of a bacteriologist, and of a bed in a hospital or infirmary to which, if he liked, he could send his patient; or if not, then he should have the services of an anaesthetist and a trained nurse. Cases of puerperal sepsis require nursing of the highest standard. How often do they get it? How often does the general practitioner have both to give the anaesthetic and perform the operation? In each district there should be a panel of doctors who have special knowledge of midwifery, and who could be called upon to assist or give advice in any case. There should also be a panel of trained nurses.

The question of more beds is a very important one. The Ministry of Health favours the establishment of small maternity homes in which the local practitioners can attend their patients. Such homes are very desirable for normal cases, especially for patients whose surroundings are unfavourable. But something more than this is wanted. There should be beds especially for difficult labour and sepsis in the puerperium, and these beds should be under the charge of experts in midwifery. All this would cost a lot of money, but, money or no money, something drastic has got to be done in the near future; and it is more than likely that the approved societies would find that helping to finance such a service would save them a large sum of money. It is true that the practitioner might object to sending in his reports to a local medical officer of health, who might be a neighbouring practitioner. He might be afraid of the patient getting hold of his report and suing him for negligence. But such difficulties can be overcome. He could notify the temperature to, and, if necessary, request assistance from, the county medical officer of health, while the consultant who is called in could make the report on the case and forward it direct to the Research Committee.

The medical press has lately been the seat of a somewhat acrimonious discussion concerning the responsibility, if any, of the medical profession with respect to puerperal fever. It is no use our sitting down and accusing one another of this and of that. We must all of us, experts and general practitioners, join together and work harmoniously in a great endeavour to improve matters. Is it likely that we shall obtain any advantages from such disputations? On the contrary, the medical profession, unless it is careful and wide awake, may find itself in the cart, to use a modern expression, with respect to the measures which may be

insisted upon by the Government in an attempt to limit the incidence of puerperal sepsis.

It is obvious from the writings and speeches of public health officials, as also from those of the laity, either personally or combined in the form of the approved societies, that a great movement is taking place to insist that the present deplorable maternal and infantile mortality and morbidity ought to be, and shall be, diminished. If, therefore, the medical profession itself does not take up the question seriously and now, it will wake up one morning to find that all kinds of rules and regulations have been made that may seriously affect its position. Let us all do our best; it is no use cursing each other; this will not improve matters; this will not save a single life. The general practitioner, apart from the patient, is the most seriously concerned. By insisting on ante-natal supervision, by linking up with the county health authorities, by welcoming the assistance of obstetric experts, bacteriologists, trained nurses, and voluntary societies, by reporting at once cases of fever during the puerperium, by giving willingly all the information he can to those constituted to receive it, the general practitioner is bound to be the chief instrument in the reduction of the maternal and infantile mortality and morbidity.

THE IDENTIFICATION OF FIREARMS AND PROJECTILES

AS ILLUSTRATED BY THE CASE OF THE MURDER OF
SIR LEE STACK PASHA.

BY

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(With Special Plate.)

On November 19th, 1924, Sir Lee Stack Pasha, the Governor-General of the Sudan and Sirdar of the Egyptian Army, was shot while returning from the War Office in Cairo about 1.30 p.m., and died on the following day. His aide-de-camp, his chauffeur, and a native policeman were wounded, but recovered.

This was the culminating point of a series of political crimes which, commencing with the attempted murder of Captain Combe in November, 1919, accounted for thirty attempts at murder, of which twelve were successful. Of these, seven took place in November-December, 1919, seven in 1920, two in 1921, and thirteen in 1922. If we exclude the attempt on Mr. Amber in February, 1923, and the stabbing affair at Heliopolis in the same year, the political significance of which is doubtful, no further cases of political murder occurred until the Sirdar case in November, 1924.

The action taken by the British Government and the political effect of this outrage are foreign to the purpose of this article, and I shall confine myself to the study of the crime from its medico-legal aspect, to the exclusion of all other considerations.

The Sirdar died on November 20th, and a necropsy was performed the next day, when the following injuries were found:

1. A wound of the left hand from a bullet which entered on the internal aspect at the base of the little finger and made its exit on the back of the hand at the base of the fourth metacarpal bone.
2. A wound of the left foot from a bullet which entered in the middle of the sole and passed to the outer side of the foot below the ankle, from which position it was extracted before death.
3. A wound caused by the entrance of a bullet on the outer side of the right pelvic bone just below its crest. The bullet passed upwards and inwards through the muscles of the abdominal wall to the level of the right lower ribs. It was slightly deflected to the left at this point, entered the abdominal cavity, and passed through the gall bladder and liver. It made its exit on the left upper diaphragmatic surface of this organ, causing a ruptured wound $1\frac{1}{2}$ inches long. It continued its course through the diaphragm, entered the chest at the level of the xiphisternum, and was found in the tissues of the anterior mediastinum under cover of the fifth left costal cartilage and immediately above the heart. There was no damage to the stomach or intestines or any haemorrhage within the peritoneal cavity.

The bullet extracted from the body was a 0.32 automatic bullet, the tip of which had been cut in a cross-shaped manner with the object of converting it into a "dum-dum" or expanding bullet. Death was due to shock and haemorrhage, the direct result of the bullet wound of the abdomen.

The aide-de-camp, Captain Campbell, received a bullet wound in the right side of the chest, probably from the same bullet which struck the Sirdar's hand. The chauffeur, March, received a bullet wound of the right leg just above the knee, and a native policeman received a bullet wound of the right hip region. An examination of the car showed that it had been struck five times on the right side, the direction of fire being from before backwards.

The reconstruction of the crime from the above information is not difficult. The assailants were waiting on the right side of the road and began to fire just before the car reached them; the first shot probably passed through the forward door of the car and entered the chauffeur's leg, passing upwards towards the thigh. The next shot probably struck the Sirdar's hand, smashed the stick that he was holding, and was deflected into Campbell's chest. The latter then in all probability pulled the Sirdar down into the body of the car, and as he did so the Sirdar's foot was raised as he overbalanced and a bullet was received in the sole. Finally, while in this position another shot was fired at him, striking him in the right hip and passing across his abdomen to the left side of the chest.

MATERIAL OBTAINED FOR INVESTIGATION.

Nine empty cartridge cases were found at the scene of the crime. These were all 0.32 inch automatic pistol ammunition, and from an examination of the extractor and other marks it was shown that three different types of automatic pistols had been used.

Six bullets were obtained from various victims; all of these were 0.32 inch automatic pistol ammunition with a heavy cupro-nickel jacket. Five of them had a cross-shaped incision in the tip to convert them into expanding bullets.

An examination of the projectiles showed that at least three different types of weapon had been used—namely, (1) a weapon of the Colt type with six left-handed rifling grooves, (2) a weapon of the Browning type with six right-handed grooves, and (3) a weapon of the Mauser type with four right-handed grooves.

Wholesale arrests followed the crime, and though certain of the actual murderers were arrested not a shred of evidence was obtained, in spite of all the efforts of the investigating authority. Fortunately a native named Helbawi, who had served a term of penal servitude for a previous attempt on the life of Sultan Hussein, was liberated from prison about this time, and decided to turn secret agent. With his history he had no difficulty in getting into contact with the suspects, and soon learned that two of the gang were young students named Enayat. From his knowledge of the psychology of the native he advised that the best plan to follow was to frighten these young men into flight, and to suggest that they should make for Tripoli. The object in suggesting Tripoli was to have them arrested in territory under the Frontier Districts administration, where they could be held without the formalities required in the other parts of Egypt. He believed that in these circumstances the younger Enayat could be induced to confess and thus implicate other members of the gang.

Helbawi was successful in his efforts, and managed to scare the Enayats into flight. They were arrested on the train while making for the frontier, and with them were secured four automatic pistols and a quantity of ammunition; these were forwarded to my department for examination in order to ascertain if any of them had been used in the crime.

Examination of Material.

The weapons were of the following brands and calibre:

- 1 Colt automatic pistol 0.32 inch.
- 1 Sûreté automatic pistol 0.32 inch.
- 1 Mauser automatic pistol 0.25 inch.
- 1 Libia automatic pistol 0.25 inch.

The barrels of the weapons were first examined chemically and found to be free from the decomposition products of