A STUDY OF EPHEDRINE.

BY

K. K. CHEN, PH.D.

(From the Laboratory of Pharmacology of Peking Union Medical College, Peking, China.)

MA HUANG has been identified as *Ephedra vulgaris*, var. *helvetica*. It is a low, dioecious, practically leafless shrub, 60 to 90 cm. high. The stem, which is green, ribbed, and channelled, is the part sold in Chinese drug stores. It is usually cut into pieces, 1 to 1.5 cm. long. Ephedrine, a natural secondary amine, is the physiologically active constituent and can be easily isolated from the plant by immiscible solvents. It was first discovered by Nagai in 1889, and its structural formula has been studied by different observers.

The Action of Ephedrine.

Our preliminary reports have shown that ephedrine possesses sympathomimetic actions and that its outstanding feature is its circulatory stimulation.

(*a*) *On Circulation.*—An intravenous injection of ephedrine in an anaesthetized dog or cat always results in rise in blood pressure and increase in pulse rate for fifteen or more minutes. The site of action is not in the central nervous system, for destruction of brain and cord does not prevent the rise in pressure. The acceleration of pulse is not due to depression of the parasympathetic system, for atropinized animals respond just as well as non-atropinized, and, in fact, the pulse is usually decreased in non-anaesthetized animals. Unlike adrenaline, the rise in pressure is not due to peripheral constriction, for intestinal and kidney volumes are often passively increased. Application of the drug directly to the stellate ganglia causes a marked increase in rate and strength of cardiac contractions, but only little rise in blood pressure. When ephedrine has produced maximal cardiac stimulation by local application to the stellate ganglia, or when the latter are paralysed by intravenous injection of nicotine, ephedrine given intravenously still elevates the blood pressure in the usual manner. It appears clear that the rise in blood pressure is mainly due to the stimulation of structures peripheral to the sympathetic accelerator ganglia—myoneural junction or the muscle itself. Since ephedrine acts on the nervous structures of other muscular organs it is probable that it does the same thing here.

(*b*) *On Smooth Muscles.*—The action of ephedrine on smooth muscles follows very closely the sympathetic innervation. Thus the pupils are dilated by the application of ephedrine to the conjunctival sac. The light reflex is retained and physostigmine causes prompt miosis. Bronchial spasm due to physostigmine is rapidly relieved by ephedrine. The isolated gut is inhibited and relaxed, the vessels of the perfused kidney show definite and prolonged constriction, and strips of rabbit's uterus suspended in Tyrode's or Locke's solution undergo one or more powerful contractions when ephedrine is added. The site of action is apparently only concerned with the terminal nervous structures, for direct application of ephedrine on respective ganglia, or nicotization to paralyse the latter, does not alter the subsequent action of ephedrine.

(*c*) *On Secretions.*—Ephedrine causes increase in secretion of several organs. In anaesthetized dogs urine and lymph are found to be constantly increased, submaxillary and pancreatic secretion usually augmented, while sweat is not affected, by ephedrine. In non-anaesthetized dogs in which a Pavlov or Heidenhain pouch is made the gastric secretion is found to be definitely increased by subcutaneous injection of ephedrine. Free and total hydrochloric acid rises at the same time. Intestinal juice and bile do not start to flow after ephedrine in dogs with Thiry-Vella and bile fistulae respectively, but pancreatic juice is sometimes increased in those with pancreatic fistulae. In all cases except the submaxillary gland when ephedrine exerts influence the results may be probably referable to the changes in circulation.

(*d*) *Absorption and Toxicity.*—Circulatory effects are immediately shown by intravenous injection, less rapidly by intramuscular or subcutaneous injection, or by the mouth. Intraperitoneal injection is also effective. The minimal effective dose in anaesthetized dogs is as small as 0.25 mg. The minimum lethal dose varies in different animals and with different methods of administration. In frogs, when injected into the anterior lymph sac, it lies between 600 and 650 mg. per kilo of body weight. By intravenous injection the M.L.D. in white rats is 140 mg. per kilo of body weight, in rabbits 70 mg. per kilo, in cats 75 mg. per kilo, and in dogs 70 mg. per kilo. By intramuscular or subcutaneous injection rabbits can tolerate a much larger dose than the M.L.D., and by daily repeated intravenous injections they can stand a dose 840 times the M.L.D. without any pathological changes. There is no doubt that this drug has a low toxicity.

Ephedrine in Experimental Shock and Haemorrhage.

In anaesthetized dogs, ephedrine raises blood pressure in haemorrhage and experimental shock induced by histamine, peptone, anaphylaxis, or surgical violence and trauma. The rise in blood pressure is permanent under favourable conditions, and its effect is due to cardiac stimulation and not to arterial constriction. Ephedrine fails to act when the heart becomes impaired, or respiration ceases, or the degree of shock is too extensive, or when haemorrhage exceeds 25 per cent. of the total volume. It has, however, no harmful effects. Clinical use can probably be made in the early stage and in mild forms of shock, or as a prophylactic drug against surgical shock in long operations.

Clinical Uses.

Ephedrine can replace adrenaline in several instances.

(*a*) *In Hypotension.*—The only case of hypotension studied was that of Addison's disease, in which intramuscular injections of 100 mg. of ephedrine twice daily raised blood pressure from 70/40 mm. to 110/68 mm. Hg for about two hours, and by mouth a single dose of 150 mg. maintained the pressure at a high level for over twenty hours.

(*b*) *In Asthma.*—As a broncho-dilator ephedrine appears to be very efficient. In five cases treated the results were most convincing; 80 to 150 mg. given intramuscularly never failed to relieve asthmatic attacks completely. The effects come on usually within fifteen minutes at the same time as blood pressure rises. In one case adrenaline was administered before ephedrine, but the patient's dyspnoea did not totally disappear until the latter was used. This is considered a temporary relief, although none of our treated patients have come back with recurrence of their complaint.

The good features of ephedrine can be most conveniently summarized as follows:

1. Ephedrine is chemically stable; age, exposure to light, or boiling does not alter its action.
2. It has a persistent and uniform action, in contrast with that of adrenaline.
3. It has a low toxicity. The margin of safety is unquestionably very wide.
4. It can be given very conveniently, either per os or by intramuscular injection. There is no local irritation.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

ESSENTIAL HAEMATURIA.

THE following details of a case of essential haematuria which occurred in Wuchang, Central China, in June, 1926, seem to me to be of sufficient interest to merit publication.

A young and otherwise healthy man, aged 29, with a negative family history for kidney trouble of any kind, had one attack of albuminuria in Egypt in 1917. This was thoroughly investigated; radiological and cystoscopic examinations were made without result, and no tubercle bacilli were detected. The right kidney only was affected, and the albuminuria was thought to be connected with a concurrent attack of appendicitis. The appendix was removed in 1919, and showed signs of previous inflammation.

The first attack of haematuria occurred at the end of June, 1926. The shade temperature was about 90° F., and the patient was working at high pressure, mentally and physically, but feeling fit. He first noticed blood in his urine after a strenuous game of tennis, followed immediately by a cold bath. The urine remained red that day, but the following midday it was much

clearer, and the next day apparently normal. He took his temperature and found it to be normal, and therefore concluded that there was no malaria. He had no pain or general symptoms, and did not have medical advice.

The second attack occurred ten days later, after strenuous physical exertion when the air temperature was high. He had been moving boxes up and down stairs, and again had a cold bath, in accordance with his habit at that time. The attack was precisely similar to the first, and cleared up without treatment.

Shortly after this the patient left the plains and went up some 4,000 feet into the hills, where the air temperature was about 65° F. He arrived in a state of collapse, due to over-exertion and an attack of enteritis on the journey; he slept for thirty-six hours after his arrival, and recovered without other treatment than rest and dieting for a few days. There was no haematuria.

The third attack of haematuria occurred after he had been in the hills for three or four days. There was no assignable cause for this attack, which lasted two or three days. He returned to Hankow, where the air temperature was unusually high at that time; the haematuria reappeared at once. Microscopical examination of the urine showed the presence of blood cells but nothing further. A radiological examination was negative. Cystoscopic examination revealed a normal bladder and blood-stained urine issuing from both ureteric orifices. Ureteric catheterization showed that both kidneys were bleeding. Urine was collected separately from each kidney and examined, and separate injections were made into guinea-pigs. Both of these died, one after a few days, and the other after three weeks, but no tubercle bacilli were found at the necropsies. The bleeding was profuse after catheterization, but began to clear up the same day without treatment; it has not recurred up to date. The patient felt quite fit throughout.

This case appears to me to deserve consideration because, in three out of the four attacks, the onset was definitely associated with a sudden change of temperature. In the first two attacks a high temperature was rapidly lowered by cold baths, and in the fourth the patient went from a comparatively cool climate to a very hot and humid one in an hour and a half.

It is obviously impossible to generalize from a few attacks in one patient, but the case is of interest in suggesting a possible type of cause in some cases of unexplained haematuria.

For permission to publish notes on the examinations made in Hankow I am indebted to Dr. Robert Aird.

Maldon, Essex. NORAH TREGEAR, M.B., B.S.

NOSE BLEEDING TREATED BY MORPHINE.

I DESIRE to draw attention to the fact that hypodermic injection of morphine quickly controls bleeding from the nose, irrespective of the cause. The following cases illustrate some of the types of nose bleeding in which it has been found of use. In none of them could a local cause of the bleeding be found.

Case 1.—A married woman, aged 30, six months pregnant, began to suffer from profuse bleeding from the nose at about 9 p.m. She was so extremely nervous that it was impossible to plug even the anterior nares, and all other methods of treatment were of no avail. Twenty minutes after the injection of 1/4 grain of morphine the bleeding had ceased, and she had a good night's rest (which would have been unlikely with plugged nares).

Case 2.—A married woman, aged 60, when recovering from influenza had for several hours slight bleeding from the nose; the bleeding became extremely profuse, and showed no diminution in spite of applying the usual remedies, including adrenaline, but fifteen minutes after injection of 1/4 grain of morphine it had completely stopped.

Case 3.—A married woman, aged 55, suffering from chronic interstitial nephritis, began to suffer from fairly profuse haemorrhage about 6 p.m. She objected at first to hypodermic injection, but as 1/4 grain of morphine by the mouth had no effect she consented to an injection of haemoplastin (a haemostatic serum) at about 10 p.m. As the bleeding had not stopped by midnight she was given an injection of 1/4 grain of morphine, and within half an hour the bleeding had stopped and she spent a good night. It is quite possible that a second injection of haemoplastin would have stopped the bleeding, but it was impossible to obtain more at that hour of the night.

Case 4.—A man, aged 22, suffering from congenital heart disease, had bleeding from the teeth and nose. There was no history of injury. All the usual remedies had been tried, but without success. The bleeding stopped half an hour after the injection of 1/4 grain of morphine into one arm and haemoplastin into the other. It began again after about twelve hours, and he was given an injection of 1/4 grain of morphine only; the bleeding stopped, but recurred next day; it ceased permanently after a further 1/4 grain of morphine given hypodermically.

In all cases the morphine was combined with 1/150 grain of atropine.

Dublin. SYLVIA B. WIGODER, M.D.Univ. Dubl.

APPARENT INFECTIVITY OF CANCER.

GENERAL practitioners have often held beliefs which were not confirmed by contemporary research workers, though many such beliefs have since been found to be correct. On the vexed question of the causation of cancer I think most practitioners consider:

(*a*) That cancer is an infection—that is, caused by micro-organism or organisms.
(*b*) That there is a predisposing factor, particularly a hereditary predisposition, or a vocational predisposition.
(*c*) That cancer is communicable, directly or indirectly, from one person to another.
(*d*) That they therefore regard the spread of cancer from pretty much the same standpoint as that of tuberculosis.

The following is a type of the train of incidents on which these opinions are based.

Mr. X. was an indulgent pipe-smoker, renewing an attractive and expensive type of pipe every few weeks. He had business dealings with A., B., and C., all fellmongers, and presented each with one of these used pipes. Unknown to all concerned Mr. X was suffering from cancer of the stomach, and died within a year. Within the next two or three years A., B., and C. all died of cancer—A. of the tongue and jaw, B. of the stomach, and C. of the bowel. One of A.'s family has subsequently died of cancer, another of so-called acute pancreatitis, while two surviving members are suffering from duodenal stenosis, a condition which is common in this area.

I leave the reader to make his own deductions.

J. MACLEOD, M.B., Ch.B.Aberd.
Ingleton, via Carnforth.

ACTINOTHERAPY IN JOINT TUBERCULOSIS IN CHILDHOOD.

AT Alder Hey Hospital actinotherapy has been used in the treatment of tuberculosis of joints in children during the past twenty months. The type of lamps and the technique of treatment used are as follows:

The open flamed carbon arc consuming 35 amps at 230 volts, general body baths exposure at a distance of 30 inches for periods commencing at five minutes and increasing to one and a half hours; a similar lamp fitted with tungsten-molybdeno-cored carbon electrodes consuming the same current, general body baths at a distance of 33 inches for periods of two minutes, increasing to ten minutes. Treatments were usually given three times a week.

In estimating the effects of any treatment in joint tuberculosis in childhood it must be borne in mind that the majority of patients recover under suitable hygienic and dietetic conditions; for example, in a series of 1,025 cases of tuberculous hips treated without actinotherapy the case mortality was 7.5 per cent.[1]

All our patients were under 16; they were treated on open-air balconies, and were given cod-liver oil and a diet rich in fats. Spine and hip cases were immobilized by spinal and abduction frames, and knee cases with Thomas bed knee splints.

	Improved.	Worse.	No change.
Hip cases (20).			
With actinotherapy ...	2	5	6
Without actinotherapy	4	3	—
Spinal cases (17).			
With actinotherapy ...	4	3*	—
Without actinotherapy	6	3	1
Knee cases (8).			
With actinotherapy ...	2	—	—
Without actinotherapy	5	1	—

* All dead.

Contrasted with other patients suffering from similar diseases, those receiving artificial light treatment on the whole did badly. When sinuses were present the exposure to ultra-violet rays increased the discharge and produced painful inflammatory changes in the surrounding subcutaneous tissue; in a few instances the treatment seemed to increase the tendency to sinus formation by producing subacute cellulitis rather than a typical cold abscess. This was particularly noticed in cases exposed to the tungsten rays. Another objection to actinotherapy is that in practice it necessitates frequent lifting and transport of the patients, who are thus subjected to repeated minor degrees of trauma.

In reviewing the records we find that some of the cases that were not making satisfactory progress under ordinary treatment were treated with actinotherapy; to some extent

[1] Haworth: Metropolitan Asylums Board Report for 1923, p. 259.

this may account for the disappointing results obtained, but we are convinced that actinotherapy is of little or no value in the treatment of this form of tuberculosis; in some cases it appeared to be injurious.

We wish to thank Lieut.-Colonel P. Macdiarmid, the medical superintendent of Alder Hey Hospital, for permitting us to publish these cases.

W. E. Crosbie, M.B., B.Ch., D.P.H.
R. Aidin, M.D.
Alder Hey Hospital, Liverpool.

A PAROXYSM OF AURICULAR FIBRILLATION.

In the Journal of May 21st (p. 919) Dr. E. E. Laslett publishes a case of a paroxysm of auricular fibrillation caused by an electric shock. I notice that he expressed the opinion that the condition may have been "flutter" rather than fibrillation. In this connexion I would like to record the following case.

On June 13th, 1927, a man, aged 49, was admitted to the Waikato Hospital. He stated that ten months previously, while mixing rabbit poison containing strychnine, some of the powder blew up into his face and was inhaled. He collapsed (fright?) and next day an attack of pain in his chest took him to his doctor. The pain passed off in three days. Three weeks later he was again attacked. This time he noticed that he was breathless and that a peculiar fluttering sensation was present in his left chest. Since then he had suffered a sequence of similar attacks at odd intervals which seemed to follow severe physical effort on his part. He stated that his pulse remained unaltered during the attack. He had a thrombosis of the right femoral vein arising from typhoid contracted twenty-five years ago, together with a large mass of varicose veins extending across the lower abdomen and an unhealed varicose ulcer of the left leg.

When I saw him he was in bed and had been at rest for some hours. The heart's apex beat was regular (68 to 70) and forceful, and was best seen about two inches below the nipple, in the nipple line. A second impulse could be seen and felt over the auricles. The blood pressure (systolic) was 130 mm. Hg. The ventricular systole was 75, regular. The auricular systole was distinctly heard, regular and about 200 to the minute; no murmurs were heard. The Wassermann reaction was negative.

There being no electro-cardiograph available it struck me that *x* rays might be of value, and the patient was removed immediately to the *x*-ray room, where he was screened by Dr. Harris, the hospital radiologist, in the presence of myself and Dr. Crawford. Dr. Harris reported: "Lateral diameter of heart increased; auricles show a rapid pulsation over 200—periodic; ventricles show a consistent steady beat, 70 to 80."

There was no synchronism between auricular and ventricular systoles.

I demonstrated the case clinically the same night, but was told by the patient that we would not see anything as the fluttering had passed off. In this he was correct. The heart had returned to normal. Auricular and ventricular systoles were synchronous and steady at 83. He was discharged on July 4th and has had no recurrence.

Edward C. Brewis, M.B., B.S.Dunelm.
Hamilton, New Zealand.

ATRESIA OF VAGINA WITH MENSES RETAINED TO THE AGE OF 26 YEARS.

This case is noteworthy in that the condition had persisted so long with trivial symptoms and that the uterus was able eventually to perform all its functions.

At the age of 15 the patient had noticed slight pelvic pain on several occasions at intervals of a month. From that time there had been no discomfort until just before admission to the hospital. There had been no disturbance of the functions of the bladder or rectum. She had been aware that the lower part of the abdomen was increasing in size, but this she had attributed to fat, as she had always been decidedly well nourished. She had married at the age of 21. A few days before admission a black vaginal discharge had made its appearance.

The temperature was 99° F. and the pulse 120. On examination of the abdomen a median swelling, the size and shape of a six months' pregnancy, was found; it was tense and fluctuant and rather tender on palpation. The external genitalia were rather small, but otherwise normal. The remains of the hymen were seen, and a finger could be passed beyond it for a distance of an inch and a half before being checked by a transverse septum. Further details could not at the time be made out on account of the black tarry fluid which obscured everything.

Under an anaesthetic it was found that the fluid was exuding through a pinhole aperture in the transverse vaginal septum. This was incised and the greater part of it was afterwards dissected away. From three to four pints of black grumous fluid flowed out; it had the odour characteristic of a *B. coli* infection, and gas escaped along with it. Irrigation with lysol lotion was continued until the cavity was clean. It was difficult to determine the exact state of affairs; the walls of the cavity were flaccid and thrown into irregular oedematous projections; the wall was thickest at the summit and very thin in the lower part. It was concluded that both uterus and vagina had been distended, but there had certainly been no distension of the Fallopian tubes.

A swab taken from the fluid yielded a pure culture of *B. coli*. The portion of septum removed measured 4 mm. in thickness; a section showed that it was composed of fibrous tissue with some non-striped muscle, and was covered on either side with stratified squamous epithelium.

After the operation there was never any cause for anxiety. The temperature remained about 100° F. for three days, and then all went well. She menstruated three times in a perfectly normal manner and then became pregnant. She gave birth to a full-term living child without any special difficulty.

Alfred Gough, M.B., Ch.M., F.R.C.S.,
Assistant Surgeon, Hospital for Women and Children, Leeds.

INVERSION OF THE UTERUS.

Those who have seen a case of complete inversion of the uterus are almost unanimous in emphasizing the profound shock attendant upon this accident. In the case reported by Dr. Fotheringham in the Journal of August 27th (p. 350) the time which necessarily elapsed before his arrival, and possibly the manipulations of the midwife, would be ample to account for the condition of the patient. It is comforting to remember that the occurrence of inversion of the third degree is not, at the moment, necessarily accompanied by shock, or haemorrhage, or great pain.

In January, 1925, I was called to a young primipara, healthy, but not at all robust. The liquor amnii had come away twenty-four hours before. The head was well down, but the patient was tired out and the pains poor. The head was delivered with forceps under CE, anaesthesia, and the anaesthetic then withdrawn. After birth of the child the placenta was difficult to expel, and rather forcible expression was used, but only during uterine contraction. The cord was not pulled upon. At the moment when the placenta appeared to be coming away the uterus was felt to disappear from above the pubes, and the inverted organ, still covered by the placenta, came out through the vulva. The patient was perfectly conscious, complained of no great pain, and might have been described as "fairly comfortable." After peeling off the placenta the uterus, grasped in the right hand, was returned into the vagina and bimanual reduction effected without difficulty.

The surprising absence of shock made me wonder whether the condition usually ascribed to the patient may not sometimes be in reality the condition of the doctor himself—confronted for the first time with a complication which had been a dreaded nightmare to him since his student days.

Leicester. C. C. Elliott, M.D., F.R.C.S.Ed.

SUBCUTANEOUS DRAINAGE OF ASCITIC FLUID.

The following details of a case of ascites treated by permanent drainage of the fluid into the subcutaneous tissues seem to be worthy of record.

A woman, aged 35, was admitted to hospital suffering from ascites. Her general condition was weak, and the liver and spleen were much enlarged, but the heart and kidneys were normal. Before admission she had been tapped eight times at intervals of about two weeks, and at each tapping nearly 20 pints of fluid was withdrawn.

In similar cases previously I had tried artificial drainage by a short straight cannula and also by passing silk threads through the peritoneal cavity into the subcutaneous tissue of the groin, but after two or three weeks the fluid again began to accumulate. For this case, therefore, I devised a curved silver cannula about 2 inches long with two circular flanges at the curved end. A semicircular incision was made in the left iliac region and a flap of skin was turned down. The muscles were split by McBurney's method and an opening was made in the peritoneal cavity. One flange of the cannula was inserted in the cavity and a purse-string silk suture was passed through the peritoneum and tied tightly round the neck of the cannula between the two flanges. In order to keep the cannula in position it was fixed to the muscles by silver wire passed through the holes in the outside flange. The straight end of the cannula pointing downwards was inserted in a pocket made in the subcutaneous tissue. The muscles were stitched and the skin united by metal clips.

At the operation I had left half the quantity of fluid in the peritoneal cavity. This was evidently draining well, as on the third day after the operation there was a marked collection of fluid in the subcutaneous tissue of the left iliac region, groin, and vulva. In order to relieve the excessive pressure of this fluid I tapped the patient; compresses of lead lotion were applied to the swollen parts and the swelling rapidly subsided. The clips were removed on the sixth day and the wound was quite healed. Eighteen days after the performance of the operation the patient was discharged, and her husband reported four months later that she was well and that there was no sign of refilling.

D. N. Kalyanvala,
M.R.C.S., L.R.C.P.
Porbandar, India.

POOR LAW MEDICAL SERVICE.

Sir,—I have read with interest the letter of Dr. Cyril Thomas on the subject of the Poor Law medical service (September 17th, p. 519).

His experience of large mixed institutions has not been particularly fortunate, as there are examples of institutions dealing with large numbers of sick where amicable relations between the master, matron, and medical officer are maintained. The duties of each are clearly laid down in the orders of the Ministry of Health, and if the spirit of these orders is loyally carried out there are few opportunities for serious trouble.

If the chief officials are antipathetic, or if their mutual confidence is destroyed, the situation becomes very difficult. The fault is not invariably on the side of the lay staff.

Alterations in the orders are desirable to fit them for various conditions, but I question if the problem of efficient hospital management will be solved by placing all institutions of the type referred to under medical superintendents, or by appointing a doctor as both master and medical officer. In the meantime, some institutions with mixed administration provide experience for the young doctor not markedly inferior to that in separate infirmaries.—I am, etc.,

September 21st. HENRY H. MACWILLIAM, Medical Officer, Walton Institution, Liverpool.

Sir,—At the last meeting of the Poor Law Medical Officers' Association it was suggested that I should write to you on the subject of appointments under the Poor Law Institutions Order. The Poor Law Medical Officers' Association has been discussing the matter for some time past, and has made efforts to collect opinions from men in this group—a difficult matter.

There are over 600 unions in England and Wales, and about fifty have separate infirmaries. In over 550, therefore—with a few special exceptions—their institutions are governed by the Order named. Many of the latter contain what are practically general hospitals, some of which have grown to considerable size. Actual conditions and procedure vary in them, although under one Order, and degrees of development vary. Between them—that is, of the 550 odd institutions—they contain a large proportion of the total hospital beds of the country.

There is little liaison between the three main groups of Poor Law doctors, and none at all between members of the group to which I refer specially.—I am, etc.,

Southend-on-Sea, Sept. 18th. R. A. S. SUNDERLAND.

FELO-DE-SE.

Sir,—In reference to Dr. S. A. Winstanley's most pertinent remarks on *felo-de-se* and your footnote on the same (September 17th, p. 518), the essence of this case is, as you point out, Was she pregnant?

Dr. Winstanley says "as a matter of fact she was not pregnant." How can he know this as a fact unless there was a *post-mortem* examination? On the other hand, how does the coroner know that as a fact she was pregnant? Unless he did so know he cannot say she was guilty of felony or *felo-de-se*. Was there a *post-mortem* examination?

The mere fact that the woman believed herself pregnant or *intended* to procure abortion on herself is irrelevant under Section 58 of the Offences against the Person Act of 1861. Moreover, apart from the verdict of *felo-de-se* being wrong if based merely on a presumption of, instead of the fact of, pregnancy, the whole inquest is void on the ground that a coroner sitting without a jury cannot return a verdict of *felo-de-se*. Section 13 (2) Coroners Amendment Act, 1926, amended the Act of 1887 and allowed a coroner to hold an inquest without a jury except when "there is reason to suspect, (*a*) that the deceased came to his death by murder, manslaughter, or infanticide; (*b*) . . ." *Jervis on Coroners*, 1927, states: "This appears to include self-murder or *felo-de-se* verdicts, as the form of inquisition with jury is given in the schedule to the Statutory Rules, 1927, No. 344/L.13. So Dr. Winstanley or the relatives could appeal to the Lord Chancellor for a fresh inquest on the claim that (1) if pregnancy was not proved the verdict was misadventure and not *felo-de-se*; (2) if pregnancy was proved the *felo-de-se* verdict made a jury obligatory.—I am, etc.,

September 17th. MEDICO-LEGAL.

"HANGED, DRAWN, AND QUARTERED."

Sir,—An experience that occurred to me whilst acting as regimental medical officer during the war may be of interest as bearing on the article in your issue of August 6th (p. 230) and the letter published on September 24th (p. 569).

In October, 1914, a party of Germans penetrated through our very thinly held lines near Neuve Chapelle. They could not get back and were rounded up. During the scrap one received a bayonet wound in the abdomen. This man walked a hundred yards to my aid post holding the whole of his intestines in his hands. Whilst doing what I could for him he talked continuously. Shock gradually overcame him and he died about six hours later.—I am, etc.,

CYRIL HELM, D.S.O., M.C.

Great Horkesley, Colchester, Sept. 25th.

THE TESTING OF DISINFECTANTS.

Sir,—In a recent letter from this laboratory concerning the testing of disinfectants (July 9th, p. 79) we drew attention to some misstatements in a standard textbook on bacteriology, in regard to a method of testing disinfectants originated by the father of one of us, in collaboration with Mr. J. T. A. Walker. We gather that this letter has caused misapprehension in certain quarters, and we wish to state that the purpose of the letter was no more than to point out the inaccuracies in the book under discussion, and there was no intention of suggesting that the method of testing originated by Dr. S. Rideal and Mr. J. T. A. Walker had in any way been modified or altered, whilst still maintaining their names. We express regret, and tender our apologies to Mr. Walker, for any apparent misstatement or ambiguity in the wording of the letter.—We are, etc.,

ERIC K. RIDEAL,
A. SCIVER.

Chemical Laboratory, Victoria Street, London, S.W.1, Sept. 27th.

Universities and Colleges.

UNIVERSITY OF LONDON.

University College.

The session 1927–28 opens at University College on Monday next, October 3rd. Students of the Faculty of Medical Sciences will be received by the Provost and the Dean on that day as follows: First year students between 10 a.m. and 1 p.m.; students of later years between 2.15 p.m. and 4 p.m.

The following awards have been made: Bucknill Scholarship (160 guineas), E. A. Devenish; First Medical Exhibition (55 guineas), J. Apfelbaum; Second Medical Exhibition (55 guineas), R. S. Ogborn; *proxime accessit*, M. Sternberg.

Public lectures that have been arranged for the first term include the following: The first Rickman Godlee Memorial lecture on "The co-operation of nations," by Viscount Cecil of Chelwood, Sir Berkeley Moynihan, Bt., President of the Royal College of Surgeons, presiding; six lectures on "Vision," by Mr. R. J. Lythgoe; three lectures on "Hydrogen-ion concentration," by Dr. Phyllis M. Kerridge; a lecture on "The static reflexes of Magnus: how animals get right-way-up and keep so," by Professor A. J. Hall of the University of Sheffield.

Particulars of these and other public lectures may be had on application to the Secretary, University College, London, W.C.1. A stamped addressed envelope should be enclosed.

London Hospital Medical College.

The following entrance scholarships have been awarded at the London Hospital Medical College:—Price Scholarship in Science, £100: K. H. C. Hester. Second Scholarship in Science, £50: A. J. P. Brown. Epsom Scholarship in Science (open to students of Epsom College—free medical education): W. A. Hyslop. University Scholarships (open to students of the Universities of Oxford and Cambridge): (1) Freedom Research Fund Scholarship in Pathology, £100, R. H. Dobbs; (2) Price Scholarship in Anatomy and Physiology, £75, A. Lister.

Medical News.

At the meeting of the Society for the Study of Inebriety, to be held in the rooms of the Medical Society of London, 11, Chandos Street, Cavendish Square, on Tuesday, October 12th, at 4 p.m., Professor W. E. Dixon, M.A., M.D., F.R.S., will deliver the twelfth Norman Kerr Memorial Lecture, on "The tobacco habit."

Viscount Cave, Lord Chancellor of England, will open the New Reception Hospital in connexion with St. Andrew's Hospital for Mental Diseases, Northampton, on October 14th, at 3 p.m. This building will be devoted to the treatment of early cases of mental disorder, and can accommodate sixteen patients of each sex. The new hospital is fully equipped with an operating theatre, laboratories, consulting rooms for psychotherapy, and special arrangements for hydrotherapy and electrical treatment.

An Imperial Social Hygiene Congress organized by the British Social Hygiene Council (Carteret House, Carteret Street, S.W.1) will be held at the Caxton Hall, Westminster, from October 3rd to 7th, under the presidency of the Right Hon. Major-General Seely. The subjects to be dealt with include: venereal disease in the Navy and Air Force; welfare work among seamen; the medical, educational, and administrative aspect of social hygiene; the modern treatment of syphilis; the social problems of India, the Dominions, Protectorates, and mandated territories; the scientific foundation of character training; and congenital syphilis in school children.

The fifth session of the Liverpool Psychological Society will commence on October 4th, when the president, Dr. Barton Hall, will deliver his inaugural address at the university on "Dreams and dreaming." This will be followed by a series of papers dealing with various scientific aspects of the subject. Inquiries may be addressed to the secretary of the society, the University, Liverpool.

A course of post-graduate lectures on infant care will be given at the Infants Hospital, Vincent Square, Westminster, on Mondays, from October 10th to December 12th, at 6.30 p.m. These lectures are intended for health visitors, nurses, midwives, and superintendents of infant welfare centres. The fee for the course is 7s. 6d. A syllabus can be obtained from the secretary, National Association for the Prevention of Infant Mortality, 117, Piccadilly, W.1.

A public conference on the subject of family allowances has been arranged, to be held at the London School of Economics, Houghton Street, W.C.2, on the evening of Friday, October 14th, and the afternoon and evening of Saturday, October 15th. Addresses will be given by Sir William Beveridge, Dr. R. A. Fisher, Professor V. H. Mottram, and others.

The Fellowship of Medicine announces that from October 3rd to 15th there will be a whole-day cardiology course at the National Hospital for Diseases of the Heart; the number is strictly limited to twenty. The Central London Throat, Nose and Ear Hospital holds its usual October courses from October 3rd to 22nd. The clinical part, occupying almost the whole of each day, may be taken alone if desired; there will also be strictly limited courses in operative surgery from 10 to 11.30 daily, in practical peroral endoscopy, and in pathology and bacteriology suitable for D.L.O. students. On October 4th the London School of Hygiene and Tropical Medicine will start a series of bi-weekly clinical demonstrations on Tuesdays and Thursdays at 2 p.m., continuing until October 28th. Professor A. Louise McIlroy will give a series of demonstrations in antenatal diagnosis and treatment at the Royal Free Hospital from October 7th to 28th inclusive on Fridays at 5 p.m. Later October arrangements include courses in diseases of children, at the Paddington Green and Victoria Hospital for children (October 17th to 29th), in gynaecology at the Chelsea Hospital (October 17th to 28th), in electro-therapy at the Royal Free Hospital (October 12th to November 2nd), and in ophthalmology at the Royal Eye Hospital (October 24th to November 5th). On October 3rd a two months' course in neurology will commence at the National Hospital, Queen Square. November arrangements include two practitioners' courses in medicine, surgery, and the specialties in the late afternoons; courses will be held in diseases of children, diseases of the chest, neurology (West End Hospital), proctology, urology, and in venereal diseases. Commencing on October 17th, a series of lectures arranged by the Fellowship and entitled "Practical hints on medicine, surgery, and the allied specialties" will be held on Mondays at 5 p.m. at the Lecture Room of the Medical Society, Chandos Street, W.1. In the same week a series of clinical demonstrations will open; these and the lectures are free to medical practitioners. Copies of syllabuses are obtainable from the secretary, 1, Wimpole Street, W.1.

The Governor of Northern Ireland has appointed Dr. M. J. Nolan, resident medical superintendent of Down County Mental Hospital, to the Commission of the Peace for County Down.

The Lord Mayor will preside over a meeting at the Mansion House, London, on October 13th, at 3.30 p.m., in support of the Central Council for District Nursing in London. The speakers will include Sir H. Kingsley Wood, M.P., and Sir William Collins, M.D.

The Executive Committee of the Invalid Children's Aid Association has issued invitations to a garden party on the occasion of the opening by Lady Lennard of the Hospital and Home for Heart Cases (to be known as "Heartsease") at West Wickham, Kent, on Thursday next, October 6th, at 3 o'clock.

Dr. G. B. Hillman, M.B.E., in response to the invitation of the three parties in the City Council, has accepted the mayoralty of Wakefield for the coming year.

The honorary freedom of the borough of Oswestry was conferred on September 22nd upon Dr. Robert de la Poer Beresford, the retiring medical officer of health, in recognition of his fifty-nine years of service to the borough, of which he was mayor in 1900 and 1910.

The Board of Management of St. Mary's Hospital have extended the term of office of Dr. Graham Little, M.P., as physician in charge of the dermatological department, for a further period of five years as from October 25th, 1927.

A congress under the name of Jornadas Médicas de Madrid, on the model of those recently held in Paris, Brussels, Toulouse, Montpellier, and Marseilles, will take place in Madrid from October 18th to 23rd, with Professor Sebastian Recasens, dean of the faculty of medicine, as president, and Professor Gustavo Pittaluga and Dr. José Codina as vice-presidents. Further information can be obtained from the general secretary, Dr. Coca, Apartado de Correos 1220, Madrid.

The thirty-fourth Congress of the Italian Society of Surgery will be held from October 18th to 21st at Parma, where the sixth congress of the Italian Society of Urology will also be held on October 21st and 22nd.

Letters, Notes, and Answers.

All communications in regard to editorial business should be addressed to ***The EDITOR, British Medical Journal, British Medical Association House, Tavistock Square, W.C.1.***

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All communications with reference to ADVERTISEMENTS, as well as orders for copies of the Journal, should be addressed to the Financial Secretary and Business Manager.

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QUERIES AND ANSWERS.

Intravenous Medication.

"Major R.A.M.C." writes to inquire whether tincture of iodine has been used intravenously and, if so, for what purpose and with what success.

"A. C. E." writes: What is the objection to the routine treatment of malaria by quinine administered intravenously, provided all due precautions are taken? On the face of it the introduction of quinine direct into the blood stream would appear to have great advantages over oral administration. I have frequently treated the cerebral type of malaria with intravenous quinine, but I have only had experience of two cases of ordinary malaria treated by the intravenous route, with immediate success and no relapse.