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PRACTICAL
FORENSIC MEDICINE

C. GRAHAM GRANT

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A POLICE-SURGEON'S EMERGENCY GUIDE

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A POLICE-SURGEON'S EMERGENCY GUIDE

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SECOND EDITION

WITH WHICH IS A CHAPTER ON

FEES

BY

HERBERT AUSTIN

BARRISTER-AT-LAW; TAXING MASTER, CENTRAL CRIMINAL COURT, ETC.

LONDON

H. K. LEWIS, 136, GOWER STREET, W.C.

1911

PREFACE TO SECOND EDITION

THE Guide has been revised, corrected, and brought up to date, with the kind assistance of Dr. F. J. Smith, Editor of 'Taylor's Medical Jurisprudence.'

1911.

PREFACE TO FIRST EDITION

THE author of this little book has neither the title nor the desire to pose as an authority on the subject. All he can lay claim to is a prolonged and varied experience of practical working, and it is the outcome of this that he wishes to impart.

The aim of the Guide is to indicate unwritten laws, supply hints, facts, and inferences which the textbooks do not deal with, and also to place at the surgeon's hand tables and figures which are difficult to recall to the memory.

To walk into a police-station with Taylor under one arm and Guy and Ferrier under the other is not a

dignified proceeding; but this little book may rest unseen in the pocket, and perhaps justify its existence by saving its owner from making the little slip that leads to trouble.

The author is indebted to Sir Edward Henry, Mr Clinton Dent, Dr. Harold Spitta, Mr. Jackson Clarke, Mr. Wynne Baxter, Mr. Henslowe Wellington, for courteous assistance in their special subjects, and, further, to Dr. F. J. Smith, who has kindly revised the whole.

CONTENTS

POLICE-SURGEON'S EMERGENCY GUIDE

POLICE CALLS.

A CONSTABLE is sent to call you. See him yourself—for two reasons : (*a*) he will be asked on his return to the station whether he has seen you personally ; and (*b*) you can obtain from him information which will guide you as to urgency, instruments, etc.

If you are called by telephone, you can, of course, obtain this information direct. Note the time of all calls.

If you pass through a rough neighbourhood, go to the station by one route and return by another, with variations. You don't want to be stopped on the way, either by an ungrateful patient or for any other reason.

On entering the station, *go at once to the officer in charge;* he is responsible for all that happens, and will note the time of your arrival, as well as give you the history of your case. It is usual to shake hands with the inspectors and those of higher rank. Remove your hat ; it would be in your way. If you have a hook—such as ladies have for their dresses—sewn 1 inch up the inside of your coat-sleeves, you can keep your shirt-cuffs out of the way of blood.

Outside Medical Men called.

Keep a box of dressings at the station for your own use and that of any other medical man who may be called in your absence. Do not quarrel with the authorities for the sake of an occasional dressing which facilitates their business and costs you a few pence; but if you find any medical man abusing your courtesy, ask him either to take his own dressings or send you the fee.

The author has devised a surgical emergency box (Messrs. Matthews Brothers, Oxford Street, W.), which contains the usual requirements for the police-station.

Conversation with Prisoners.

Inquire of the police whether your patient is a prosecutor or a prisoner, and if the latter, be careful not to put any question of an incriminating character. Rough characters will, however, frequently give you information—name, address, etc.—which they have refused to the police.

Trivial Injuries.

The authorities direct that 'a liberal interpretation' shall be put on regulations applying to the divisional surgeon, and therefore you will frequently be called to trifling injuries. In this connection it must be remembered that an inspector would be unwise to take responsibility where he is not called upon to do so, and that a bloodvessel which is not bleeding in the cold air may do so in a heated cell.

Injuries not to be touched until your Arrival.

Do not allow the constables to clean up wounds in anticipation of your arrival, because valuable information

as to the position of the victim at the time of the infliction of the injury, and of the nature of the instrument used, may be destroyed.

For instance, a prosecutor informs you that 'he was knocked down, and kicked about the head when on the ground.' The appearance of mud, horse-dung, etc., and the direction the stream of blood has taken in the hair, will greatly assist your opinion. The author gave evidence in a case in which the prisoner, charged with biting a policeman's finger, asserted the injuries he himself had sustained were inflicted in the police-station. It was, however, possible to swear that such was not the case, as the *blood was caked about the wounds*, there was mud about them, and the man had not been in the station fifteen minutes before he was surgically treated.

When you have to undress a woman, have the matron present, and if that is not possible, leave the door partly open and stand a constable outside.

If you have to send a woman anywhere on an ambulance, advise that the matron should go with her.

Antiseptics.

Clean your instruments yourself. You cannot do major surgery in a police-station, but you *can*, and you ought to, be antiseptic in what you do.

The Surgeon's Report Book.

The divisional surgeon is required to make an entry in this book as a record of the case and to justify to the magistrate the 'calling in' of the surgeon. If the 'calling in' was not so justified, the magistrate might refuse to include the value of the voucher in the penalty, or allow it out of the county fund, and thus leave it a charge against the police.

Some surgeons have taken exception to the alleged fact that the magistrates use these certificates as evidence, and no doubt the decision is frequently influenced by the reports in question; but it must be borne in mind that the medical man is called in by the Commissioner, *who pays him* for the certificate he gives; and if the police decide to place this before the court, the surgeon is hardly in a position to object. To what extent the magistrate is legally justified in using the certificate as evidence must be weighed by him.

Suppose A is charged with being drunk, which he denies; the divisional surgeon is called, who certifies him to be sober. Can it be seriously advanced that the magistrate is to take no notice of such a fact unless the prisoner calls, and pays, the medical man as a witness? If this were so, it might justly be said, 'There is one law for the rich and another for the poor.'

Your entry should be brief, but, of course, accurate. The word 'drunk' is a legal rather than a medical term, and is greatly objected to by many prisoners, who consider themselves sober if they can *stand up*, and who are quite satisfied to be shown as 'intoxicated' or 'under the influence of drink.' Although the latter fact has no bearing on your duties, still, the word 'intoxicated' is easier to justify on medical grounds in the witness-box.

When a man falls and receives a wound on his head from contact with the pavement, this should be described as a 'lacerated scalp-wound,' and not as a 'cut head,' which it is not.

Occurrence Book.

This book, as far as the divisional surgeon is concerned, is now used for bringing to the knowledge of officers—other than those connected with the case—any

direction the medical man may wish carried out. A station officer taking up duty would not be expected to read the surgeon's report book, but he is required to know what the occurrence book contains.

You direct 'So-and-so to be taken to the infirmary on police ambulance.' This should be shown in the report book, because it only concerns the officers engaged on the case. Conversely you direct 'the prisoner to be inspected every quarter of an hour.' Write the order in the occurrence book, as it affects officers subsequently taking charge of the station.

Evidence Book.

These entries will not assist you in giving evidence, so keep a pocket notebook at the station, and in it note down the date, the time, the patient's name, the nature of the injury, and whether drunk or sober. Endeavour to note the sobriety or otherwise of all parties concerned, as in the witness-box you will be constantly questioned on this point. Look into every complaint of injury on the part of the prisoner, and note the particulars.

In cases where prisoners *threaten* suicide—apart from those in which an attempt has been made—see the bootlaces, neckcloths, and braces removed before the prisoners are placed in the cells.

When you are called to several cases at one time, you are, strictly speaking, allowed only one certificate. Some surgeons get over the difficulty by the undignified proceeding of walking out of the station after each case and returning. This is quite unnecessary, because a short report from the officer in charge stating how your time has been spent will be followed—if your experience is the same as the author's—by the proper remuneration for your services.

By a wholly admirable regulation you are not called to determine whether a member of the force is drunk or sober (that being a question for his superior officers); but it sometimes happens that a constable is injured when in a possibly intoxicated condition, and you are called to attend to him. You may subsequently be asked what your opinion was as to his sobriety, and be forced to give one founded on insufficient data. It is well, therefore, to have a clear understanding with the officer in charge of the station as to whether you are to examine him on this point or not.

In the Metropolitan area you will be paid 3s. 6d. for a day call—that is, 7 a.m. to 7 p.m.—and 7s. 6d. for all others.

Should your detention at the station be unusually prolonged, or the case be an exacting one, instruct the officer in charge that you propose to apply for a special fee, and he will not then issue a certificate.

The question may be asked :—What is an unusually prolonged detention? The author does not apply for a special fee unless detained an hour or close upon it, and then he asks for half a guinea, and the same for every subsequent hour. The further question is :—What is an exacting case? In this category it would be fair to include vaginal examination, temporary splints to broken bones, passing a catheter, washing out a stomach, cases involving personal risk or destruction of clothing, etc. Each of these contingencies must be estimated according to its merits.

Your application for a special fee should briefly state the circumstances of the case; it should be addressed to the Commissioner of Police, and sent forward through the superintendent of the division.

Street Calls.

If you are called to a case in the street by someone other than a constable, ask the constable who is probably on the spot when you arrive, *before you attend to the patient*, if he wishes you to do so. Otherwise the patient or the person who calls you is liable for your fee, for which you may whistle, that being as reliable a means of collection as any other. The great desideratum for the police is to clear the thoroughfare as quickly as possible. The author fails to see that the stoppage of the traffic for ten minutes is at all a serious matter, and, further, is of opinion that 99 out of 100 injured persons would benefit by being allowed to rest, and thus combat shock, even for the few minutes it would take to fetch a doctor.

Moreover, is the wish, expressed or not, of the patient to be ignored? Has he not the right to demand that he should be left alone till the arrival of a medical man? Is his simple fracture to be converted into a compound to facilitate the passage of a brewer's dray or save idle people who collect in a crowd from the risk of having their pockets picked?

Of the immense sums now given to various philanthropic institutions (useful, useless, and mischievous), a part might well be expended in establishing a casualty medical man, ready to set out with a fast ambulance, at such centres as St. Paul's, Westminster Abbey, the Elephant and Castle, etc.

These views for what they are worth. Under the existing circumstances instruct your constables to take all cases, if practicable, into some shop or entry pending your arrival. You should take with you a hypodermic case (Messrs. Maw, Son and Sons supply all that you require in this respect), a notebook, a stethoscope,

and a bottle of strong smelling-salts. The last is a wonderful reviver for persons who are in fainting-fits or feigning fits. Most of these casualties will have to be sent either to the hospital, to the infirmary, or to their homes. Persons who, though intoxicated, are from illness or injury unfit to be detained in a police-cell should be sent to the Parochial Institution, *if they are without money*. Fourpence—the price of a night's lodging—has been held to take certain persons out of the category 'destitute,' and such would have to be sent to the hospital or to their homes, according to the nature of their injuries or ailments, but this is, of course, subject to local customs and opinions.

RELATION WITH POLICE-OFFICERS.

A CONSTABLE is generally expected to be a lawyer, a doctor, a Samson, and a saint. He is none of these things; but the author has generally found him a long-suffering, conscientious, and not too well paid official.

One shilling per diem is stopped from his pay during illness or accident not sustained on duty, and he therefore belongs to a sick club. He gets, as a rule, 14s. a week by this means, and he is, as a result, 7s. to the good by the end of each seven days. This is certainly as it should be, as long as the illness lasts, but it has an undoubted tendency to perpetuate the incapacity in those black sheep that are found in every fold. Try suasion. Begin a week before you really expect him to resume, and say, 'We must try and take up duty on Monday.' When that day arrives you can solemnly postpone it till Wednesday, then till Friday, and finally till Monday. Give a tonic with iron in it—of course, if not contra-indicated by the ailment—and you will be able to see by the tongue and teeth whether your medicine is going down the gullet or the sink. If the latter, a faradic current is generally sufficient corrective.

The author ventures to think that if the men received full pay when sick, the result would commend itself to the authorities, as it has done in the Post-Office.

Do not leave the care of the sick constables to an assistant; a personal attention is to the benefit of the

men, the department, and indirectly to yourself, because a constable appreciates such a fact, and cases that might often be diverted to hospital or elsewhere may reach their proper haven.

Address the men by their numbers, the sergeants as 'sergeant,' and the inspectors as 'inspector' or 'Mr. So-and-so'; otherwise you may receive the unpleasant surprise of being addressed by your own surname.

The divisional surgeon should never give the men money, directly or indirectly; it would be humiliating for him to have to admit it, and he is practically, though not theoretically, a police-officer himself.

The divisional surgeon is allowed to charge one shilling for *all* the certificates a constable requires for *each* club: and therefore if the officer wished to declare upon the funds of six such societies he would be properly asked to pay six shillings. It is, for obvious reasons, more convenient for the constable to pay *after* than *before* the declaration on the funds. Many divisional surgeons devote the fees so obtained to some charitable object connected with the force.

GIVING EVIDENCE.

THE police-surgeon is called upon, as a rule, to give evidence in all indictable offences in which he is concerned and in which there is a prisoner. Frequently, therefore, the inspector will say: 'If we make an arrest, I will warn you in the morning to attend court.'

Such an arrangement is unsafe; it may be misunderstood or forgotten by the inspector, the constable in the case, or your own servants. *It is wiser to arrange to attend unless otherwise informed.* As the evidence you will give is largely a matter of opinion, you are allowed to be in court during the hearing of your case, in view of the fact that your opinion may be affected either way by the evidence. When, therefore, you hear the direction given, 'All witnesses to leave the court,' you may take it as not applicable to you.

You are by courtesy allowed to take your seat at the solicitors' table in courts in which special accommodation is not provided for you. Be careful in moving about not to pass between the magistrate and the prisoner in such a way as to intercept their view. Squeaky boots are an abomination in the hearing of the court.

Before going into the witness-box, ascertain the name of, and if possible see, the prisoner in the case, failing which you may find yourself giving evidence against the *wrong man.*

Take the oath in any way you please, but if you have

to do so with frequency, it is advisable to take it after the Scotch fashion, with ungloved right hand uplifted to the level of the head, and the following form, approved by the Home Secretary, will suffice :

Scotch Oath.

'I swear by Almighty God, as I shall answer to God at the great Day of Judgment, that I will speak the truth, the whole truth, and nothing but the truth.'

The law not only permits you to do this, but it specially enjoins that no question may be asked as to your reasons for so doing. If, therefore, any questions *are* asked, you can either answer or draw the attention of the court to the circumstance. Authorities are divided as to whether it is permissible for the witness to 'make oath'—*i.e.*, swear himself—but the English oath must be administered.

Under the Oaths Act, 1909, the necessity for kissing the book has been done away with, and consequently the advantage of the Scotch form is not so marked ; but if you prefer to adhere to it you may do so. It is only necessary to say, when the Testament is handed to you, 'I desire to be sworn in the Scotch form'—the oath must then be administered in such form and manner without further question.

In giving evidence speak slowly—many people are writing down what you say—and in a decisive voice ; avoid technical terms as far as possible, and write down any opinion you express *at once*, or as soon as you can. Do not loll about in the witness-box ; respect for the court demands that you stand erect, and your personal dignity is enhanced thereby.

Titles.

The coroner is properly addressed as 'Your Honour,' as is also a County Court Judge; the magistrate as 'Your Worship'; and a Judge of Sessions or Assizes as 'My Lord.'

Always use the title, or in the case of inferior judges say 'sir,' because this mark of respect is due not only to the individual, but to the court.

As an instance of the inadvisability of using technical terms—take it that you have to describe a stab in the neck—if you say 'the injury was within an inch of the iugular vein,' you will observe the usual 'profound sensation in court'; while if you say 'the external coat of the carotid artery was incised,' not even the proper weight will be accorded the statement. It is better, therefore, to put it in this way: 'The important vessels of the neck were injured by the blow.'

You must remember always that you are explaining facts to a court or jury who are laymen, and your ability will be best displayed by the simplest language. Technicality, where common terms are available and accurate, almost always causes irritation.

You must not give hearsay evidence, but anything said to you *in the hearing of the prisoner is allowable.*

Your evidence book you should take into the witness-box with you to *refresh your memory*, but do not refer to it unless obliged to do so, because the moment you have done so counsel are allowed to ask to see it. If it remains shut in your hand you may refuse to have it opened; but in it, of course, you will have used purely technical language, and probably many abbreviations—such as C_2H_6O+, for very drunk—which is not understood of legal men, and therefore it is often better to

hand it to counsel if desired. You will then be asked, 'Were these notes made at the time?' Probably you have added to them before the coroner or at the police-court, so reply: 'In the essential particulars, and *I swear to the accuracy of all.*'

In your evidence say all you know in favour of the prisoner—for two reasons: you may not have another opportunity, and injustice would be done; further, it is common fairness, and nothing so effectually disarms cross-examination of a hostile kind.

Frequently a cross-examining counsel will endeavour to shake your evidence by setting you an involved postulation with several assumptions in it. To avoid entering into an argument, say: 'I am not an expert.' Counsel will frequently say to you: 'I want an answer—"Yes" or "No"'; and you must give it him, where the question admits of it; but, your evidence being on a matter of *opinion*, you are allowed to qualify that answer in any way you please.

Cross-examining counsel will often put a question—generally a long one—to you which has little or no bearing on the matter in hand, and which does not admit of an intelligible answer, the object being to gain time to digest your last reply or to frame further questions. Ask him to repeat it, and to do so in more concise terms if he can.

Cross-examining counsel has generally a confederate who feverishly peruses numerous musty old volumes, and at length hands one to his leader, who then says: 'Doctor, do you consider "Bubble and Squeak" an authority?' Reply at once: 'An up-to-date edition would be. What is the date of the one you have?' It is probably in the early fifties somewhere, and you will be told not to ask questions; but his gun is spiked.

Remember above all things that you are an impartial witness, and do not hastily conclude that you are being treated in a hostile manner. Of course, if your impartiality is attacked, you may defend it ; but the counsel on your side will generally come to your aid and with better effect.

In regard to criminal offences, a further responsibility has recently been thrown upon the shoulders of medical men by the Children Act, 1908. By this Act it is provided that, where a Justice is satisfied by the evidence of a duly qualified medical practitioner that the attendance before a court of any child or young person in respect of whom any of certain offences under that Act may be alleged to have been committed, would involve serious damage to the life or health of such child or young person, the deposition of such child or young person may be taken in writing by such Justice at any place he thinks fit.

It is also provided by the same Act that on the trial of any person on indictment (*i.e.* at Assizes or Quarter Sessions) for such offences, the deposition so taken shall, under similar circumstances, be admissible in evidence on such trial. For the purposes of the Act the expression 'child' means a person under the age of fourteen years, and 'young person' means a person who is fourteen years of age or upwards, and under the age of sixteen years ; the effect of the provisions quoted being that, if a medical practitioner is of opinion that such serious damage would be involved, a witness coming within the catgory of 'child' or 'young person' need not give evidence in open court.

DRUNK OR SOBER?

YOU will find that to arrive at a satisfactory answer to this question is the most unpleasant work you will have to do, and that, further, the means at your disposal are often anything but convincing.

It must in this connection be clearly borne in mind that you are *not* called to decide if the person *is* drunk, but if he *was* drunk at the time of his arrest.*† And this is of importance, because intoxicated persons can pull themselves together in quite a surprising way, which may lead you hastily to bring censure on some young constable who has acted properly.

A London magistrate once remarked: 'I see people getting drunk as they stand before me,' which, of course, simply means that, while they *can* pull themselves together for a time, the nervous tension cannot be maintained for long, and it is this fact that should be taken advantage of in all cases of alleged intoxication.

The author remembers refusing to certify a prisoner, who was then told to leave the station. He fell down the steps, was unable to get up, and had to be brought in and charged. On another occasion a man similarly allowed to go was arrested by a different constable within a few minutes, and brought in on the same charge.

Anxious care must, of course, be exercised, and if you

* This statement has been adversely criticized.

† Note by Dr. F. J. Smith: 'The statement has my distinct approval.'

cannot say the prisoner *is* intoxicated, then direct your attention to the further question, *Was* he intoxicated? If you are not satisfied on that point either, you must refuse to certify. If you are satisfied, then make a report to the effect that 'he is recovering from the effects of alcohol.' This is sufficient to enable the police to take the charge, and the magistrate will deal with the facts.

It is often hastily assumed that a constable can with impunity arrest, charge, and take before a magistrate, any person he elects to consider intoxicated. This is far from being the case. Any person taken into the police-station by a constable is immediately examined by the inspector. If the latter is of opinion that the prisoner is not intoxicated, the charge is refused, and the constable *is reprimanded.* Assuming the inspector accepts the charge, and the prisoner denies his condition, the divisional surgeon is called, or, in his absence, any other medical man. If the doctor does not agree with the police-officers, the charge is then generally refused, and the constable is instructed to make out a report giving his reasons for arresting a man as drunk who was not so. It is, therefore, clear that any officer making an arrest on insufficient grounds has an unpleasant time before him.

There is a check, too, even on the divisional surgeon, because the prisoner has the right, often exercised, of calling in an independent medical man.

No test that a *nervous* sober man could not successfully withstand is of any value. To ask him to say 'truly rural,' 'British Constitution,' to write his name, or to thread a needle, is idle.

TEST A.—No two men, one sober and one drunk, can talk together for *any length of time* without the intoxicated one demonstrating his condition to the other either in his speech or his confusion of ideas.

TEST B.—The gait may be unsteady. Make the person walk rapidly the length of the room, *turn sharply* without stopping, and come back.

TEST C.—He may sway when standing with his eyes shut and his heels together, or fall forwards when told in that position to touch his knees with his hands.

TEST D (the author's: for what it is worth)—*The Time Test.*—It is based on the assumption that sober persons have a more or less inaccurate idea of the passing hours, a margin of one hour being allowed.

The prisoner has been placed where he cannot see a clock, the inspector having so directed. You talk together about his day's proceedings, when he went to work, when he had dinner, tea, how he spent the evening, and at last you put the question: 'What time did the policeman bring you here?'

He often gives answers of the wildest possible kind—three, four, and five hours wrong—and frequently refuses to attempt the question. During the years 1905 and 1906 the author applied this test in 136 cases.

Twenty-eight were incorrect to the extent of two hours, 13 were incorrect to the extent of three hours, 5 were incorrect to the extent of over three hours, and 16 refused to attempt a guess. The device here put forward has been variously described as 'worse than useless,' 'quite superfluous,' and 'invaluable'—the last by a gentleman who, under cross-examination, had been able to say: 'When I asked him the time he said it was about eight o'clock, when, as a matter of fact, it was past midnight.'

If it is useless, the author has paid, and is paying, the penalty, because he is frequently telephoned in the night to explain to some medical man who has heard of it, and is in difficulty, the nature of its application. This test should not be applied to women, because their ideas of

time are often vague apart from the question of sobriety.

This test may fail for many reasons. The prisoner may have been turned out of a public-house or theatre at closing-time; he may have looked at his watch, or have seen a clock, or he may have asked and been told the time; but *if it does act*, it is a convincing fact to state in the witness-box.

You *must* say to the prisoner in the presence of the constable: 'In my opinion you are drunk,' or sober, or, in short, the effect of the certificate you propose to give.

Medical and legal textbooks are equally shy about attempting a definition of 'drunkenness.'

It has been postulated: 'No man is drunk unless rendered by drink incapable of controlling his senses.' Every practitioner of experience must have seen cases in which persons were so drunk as to be unable to stand, and yet retain sufficient mental clarity to keep them beyond the scope of this definition.

The author has been frequently asked, when in the witness-box, to define the condition, and he generally replies: 'When a man, as a result of alcohol, says or does things he would not otherwise have said or done, he is drunk in a greater or less degree.'

This is a purely medical view, and as a definition is far from exhaustive, but it may serve upon occasion.

Common Signs.

(*a*) Dilated pupils.

(*b*) Flushed face.

(*c*) Angry tongue—white centre and red edges.

(*d*) An *aggressive* smell of alcohol in the breath. It can often be detected in the air of the room.

(*e*) Negative of any other explanation of condition.

In cases of disputed drunkenness which have un-

avoidably waited your arrival for some time and been placed in a cell, the evidence is often stronger than it would have been had they not so waited. See such cases *in the cell*, which will probably smell strongly of alcohol; the prisoner is usually *asleep*, and on being roused will demonstrate his condition in a surprisingly convincing manner.

Effects of Different Intoxicants.

The effects of different intoxicants vary greatly with the resisting power and habits of the individual. There can be little doubt that a fasting condition will cause a small quantity of alcohol to produce an intoxication out of proportion to the amount; and where such a state of affairs is found it is the surgeon's duty to point it out to the police. Extreme youth and advanced age are also easily affected by alcohol. The intoxication of beer and wines is more transient than that of spirits, and the coma is less profound, the quality of the liquor being, of course, an important factor. Rum would seem to be the most frequently adulterated beverage, and it produces marked toxic effects. In one case coming under the writer's notice, the man slept (in the infirmary) from Sunday evening till Tuesday afternoon, when he asked for his dinner.

In giving precedence to rum as a toxic beverage, the claims of methylated spirits and furniture polish must not be forgotten; but they generally act as emetics, and are rarely taken in quantity.

In certain cases prisoners will tell you they are tee-totallers with an earnestness that convinces. Question them as to eau de Cologne, port, etc. There is a pledge that people sign which prohibits all alcoholic beverages with the exception of port, presumably with the idea that it has a peculiar medicinal value.

'Sucking the Monkey.'

'Sucking the monkey' is a condition not often seen, in the author's experience, of recent years. It consisted of the selection of a cask, boring a hole with a gimlet, and inserting a straw, to which the lips were applied until insensibility ensued. Certainly the profoundest coma was produced when the cask contained rum, which, even in comparatively small quantity, seems capable of great effects. As a prisoner once remarked: 'It keeps coming up and down, and you get your money's worth.'

The intoxication of spirits is more rapid, if less lasting, when effervescent waters have been used as a diluent, the absorption being hastened thereby, as is also the case with sparkling wines. This fact is of assistance when you have to differentiate between a man who has been drinking heavily and one who is *excited* primarily with alcohol and secondarily with his arrest. In the latter case the speech and gait may be unsteady, but the mental power is normal and often hypersensitive, which, perhaps, explains the resistance to authority which an hour later would be tolerated. The time test fails at once. In endless cases the first real difficulty arises on the *touch of the policeman's hand.* Sober persons are sensitive about this, and those excited by alcohol, even to a slight extent, are specially so.

The 'moving on' process is one, therefore, which in the author's opinion, is provocative, and should be conducted with discretion; but, of course, the public interests are the first consideration, although their observance need not prevent a distinction being drawn (at any rate, by the police-surgeon) between a man who has been temporarily overstimulated and one who has submerged his individuality in alcohol.

You would, therefore, state your view of the case to the inspector, that the magistrate might be in due course informed, assuming the charge to be taken. At present the law does not recognize the distinction above indicated, and you would be forced to say, 'The prisoner was drunk'; but this being a matter of opinion, you would be allowed to qualify it in the way suggested. To give this opinion weight, it is *highly essential* that you should have been on the scene with promptitude, and the interests both of the prisoner and the constable are in your hands, *so hasten.*

Habitual Inebriates.

A magistrate or judge, to send the prisoner to an inebriates' home, requires proof (*a*) that the person is an habitual drunkard, and (*b*) of three convictions for inebriety in the previous twelve months.

You are generally called, after the case is dealt with, to fill up the removal form; but you should prepare yourself to give an opinion on the first point, if asked, and this involves a careful physical examination.

It is quite clear that three convictions in a year would not necessarily constitute habitual drinking. Many people remain abstemious, or even abstinent, for years, then break out, and put in three convictions in a month. That is not habitual drunkenness. Certain persons when drunk are gloomy, others cheerful, while yet another section are violent, and in the last convictions are easy to prove.

Summary.

There are three conclusions open to you:

(*a*) The prisoner was not intoxicated when arrested.

(*b*) The prisoner was intoxicated when arrested, and when seen by you.

(*c*) The prisoner was intoxicated when arrested, but had sobered when seen by you.

If you adopt the last option, you would write in the surgeons' report book : 'I see reason to believe that he was intoxicated when arrested, but I am not in a position to certify that he was so at the time of my examination.'

DRUNK OR DYING?

THIS question is generally supposed to present the most appalling difficulties. As far as the police-surgeon is concerned it presents none, if he elects to adopt the rule of considering all such cases to come under the category 'dying.'

Nothing could be clearer than the fact that a police-cell is not a suitable place for any *insensible* person, and that it was never intended to be so used. That being so, the case resolves itself into one requiring first aid and removal to some institution. Have the person searched. If he has money, he *may* be refused at the infirmary, and if he has none, he *may* be refused at the hospital. Having decided, see the patient placed on the ambulance yourself.

You will find the authorities at these institutions considerably indignant at having an alcoholic case brought in during the night, but your position is unassailable. You can say to them : 'If you won't take the cases, send them back, and we will put them in the cells rather than cart them about from place to place ; but the responsibility will rest with you.'

Pitfalls.

The cases you are likely to come across which have intervals of complete sensibility, during which you may

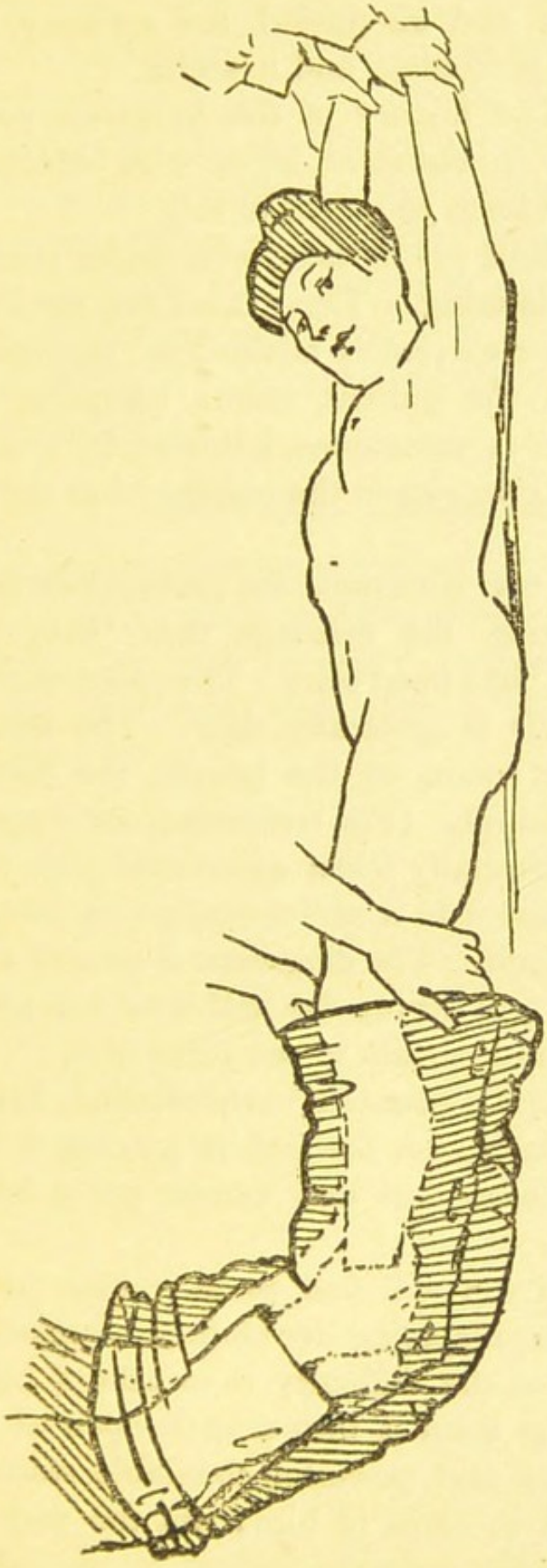


FIG. I.

see the patient and be misled, are epilepsy, fractured skull, camphor-poisoning, and hysteria.

Epilepsy.—The history of the fit given you by the constable, and concomitant signs with which you are familiar, should keep you right in this.

Fractured skull will be dealt with under that heading.

Camphor-poisoning.—These cases are, fortunately, not common, but are extremely misleading, because between the paroxysms the patient seems comparatively well. The convulsion is sometimes followed by a collapse so complete as to give rise to the opinion that the patient is dead.

On the only two occasions the author has been called to this poisoning the message that 'they think the patient is dead' has been sent. The cases recovered.

The *diagnosis* is generally easy. The smell of the drug is in the room, on the breath, the teeth, and, of course, in the vomit. (For treatment, see Appendix.)

Hysteria, especially when associated with alcohol, as we generally find it in a police-station, is more troublesome than difficult. The diagnosis is usually made clear by the history, and during the half-hour you are engaged you will be almost certain to see signs of it.

Opisthotonos is a common manifestation, but it is soon overcome by pulling on the feet or placing a newspaper under the heels, so that they cannot get a hold on the floor.

Occasionally you will find some woman has stripped herself, and that replacing her clothes is impossible. An easy way out of the difficulty is to take a blanket, and with safety-pins form it into a sack open at each end. Make a serious and powerful constable stand with his arms extended in front of him; run the sack on them, and then make him grip the patient by the ankles. The

blanket can then be run up to the patient's axillæ, and secured with a bandage. It is against the regulations to place handcuffs on a woman, but the blanket, once in position, makes it easy and decent to get the patient on to an ambulance, where the hands can be restrained while the case is taken to the infirmary.

It is convenient to keep a bottle of 'diarrhœa mixture' at the station with more or less of a narcotic character and a dose of this in mild cases will often be sufficient to meet the occasion.

Suicidal Cases.

Where these or other cases *show* any suicidal tendency, get rid of them by some means—either to the hospital, the infirmary, or their homes; because, if anything happens in the cells, you cannot clear yourself of responsibility.

FRACTURED BASE.

THE diagnosis is generally easy, occasionally difficult, and sometimes impossible.

If your patient is deeply concussed, has unequal pupils, bloody serum oozing from the ear, a scalp wound, and the history of a fall, you may, as the Americans say, talk large. All you have to do is to powder the external meatus well with iodoform—do not plug it—apply a cold-water cloth to the vault, and send off to the hospital; but when the case presents only the symptoms of intoxication 'a bit unusual,' as the inspector will tell you, the matter is very different.

Some of the author's errors in this connection may be instructive.

Called to one of the stations about 9 p.m. to see 'a drunk a bit funny,' he found a middle-aged man lying on the floor 'unloading whisky,' as a constable put it. His pupils were equally dilated; no blood from the ears, but some clots from the nostrils. At intervals he *drummed his heels on the floor.* He had walked to the station and abused the constable in the usual way; he also gave his name and address.

While under examination he lapsed into insensibility, so, in accordance with the practice, Form 17 was filled up, and the constables instructed to place him on the ambulance. Immediately he was so placed he jumped off, struck a constable in the face, dislodging his helmet.

He then seized hold of some railings, and considerable force was required to remove his grasp. Roundly abusing everybody, he was put in the cell.

As he had not come out of what was assumed to be a drunken sleep at 6 a.m., the author was again called, and found the man's condition desperate. He died in the infirmary the same night, and the post-mortem showed extensive fracture of the base.

Some few nights later, and while still smarting under this reverse, the author was called to another case—a woman intoxicated; semi-comatose and with considerable hæmorrhage from the left ear. Not to be caught this time, he immediately sent her home, and next morning drove round to see how she was. She had gone out to fetch some beer, and an examination on her return, with a mirror and a speculum, showed a polypus projecting through the membrane.

On another occasion the author and a medical friend were examining four men, freely bespattered with blood, arrested on a charge of murder, when a woman was brought in. She had been pushed down by a young man and had sustained a small scalp wound. She complained in no measured terms of the sight in the police-station, as 'blood always made her feel sick,' and asked to be allowed to go home. Her wound was dressed and she seemed all right, but a policeman went home with her. In a week she died in the infirmary, no diagnosis having been arrived at, but a post-mortem showed a fractured base.

Unequal Pupils.

Some persons in health have unequal pupils congenitally or from early disease or accident. In dealing with them always err on the safe side.

A fracture of the skull is caused by a heavy blow, *especially by a fall.*

The author has seen a great number of truncheon wounds in which powerful men have struck with their full force; but he has never seen a fractured skull caused in this way (presumably because the victim is erect), although it is not infrequently caused by a belt with a heavy buckle, and even by a kick. The shape of the weapon used would seem to be an important factor in the result, and also the position of the person struck. If the head was fixed against a wall or kerb, much less violence would obviously be required to produce a fracture.

There seems to be little doubt that most cases are caused by a fall, even from the patient's own height.

Whenever you suspect this condition, have the case removed from the station without delay.

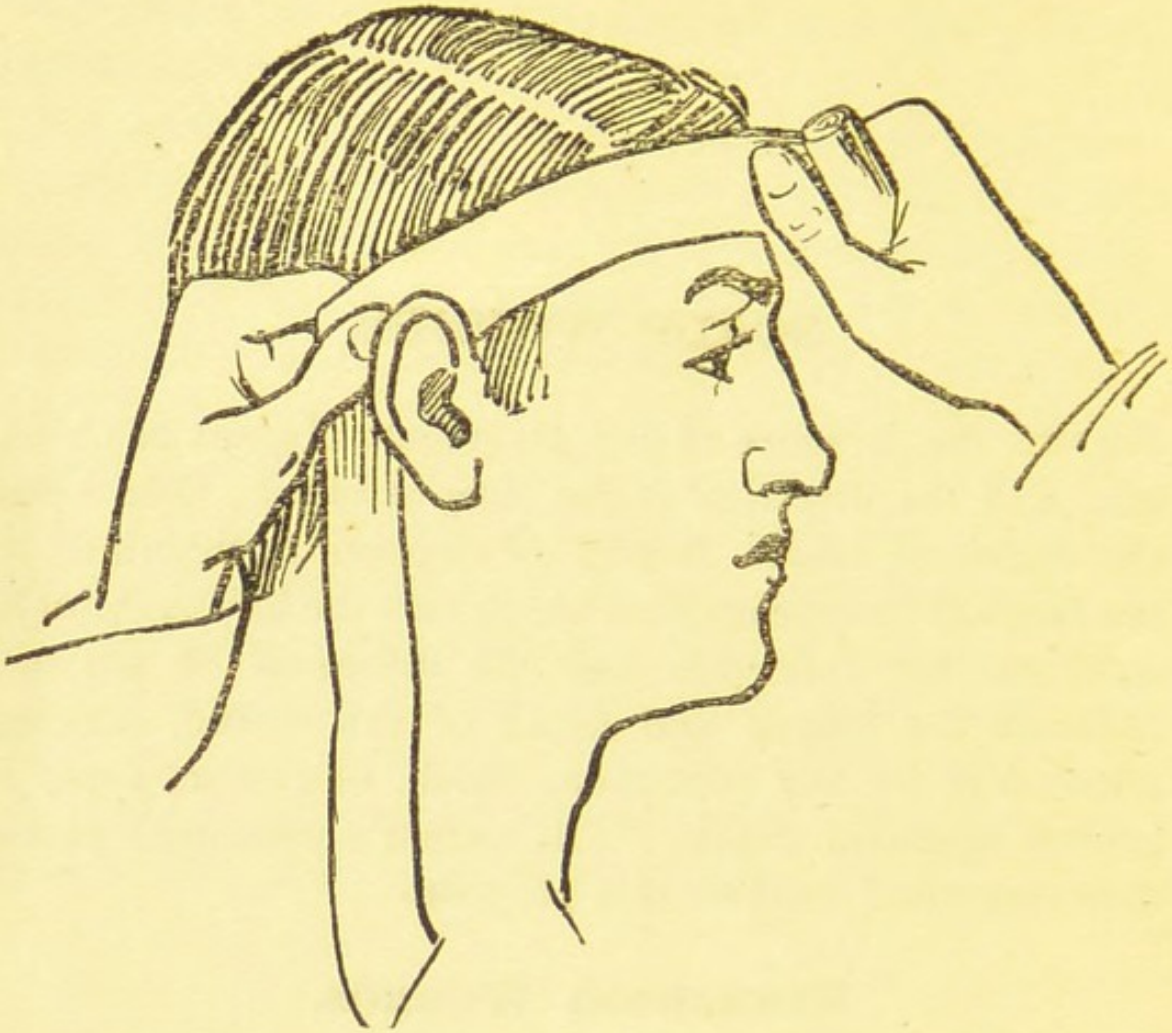
SCALP WOUNDS.

NOTICE the presence of dirt, fragments of glass or china, etc., and the direction of the flow of blood; then clear the region of hair. A pair of clippers is contained in the surgical emergency box, which cuts the hair to $\frac{1}{16}$ inch, sufficient for antisepsis and the adhesion of plaster. Measure the length and depth of the wound, making allowances for any contusion, which, of course, gives a greater apparent depth. The author's measured probe may commend itself for this purpose.

Truncheon Wounds.

Do not hastily assume that a wound is an incised one because it appears so, and is not contused. A blow with a truncheon, a broom-handle, the leg of a chair, and, in fact, any smooth round surface, will produce such an injury; but a magnifying lens will show at once whether the edges are really smooth or otherwise. As far as the treatment is concerned, washing, dusting with a mixture of boric acid and iodoform, a piece of double cyanide gauze and plaster or a bandage, seem to answer all requirements.

The surgeon should remember that the appearance of the prosecutor in court 'with his head enveloped in surgical bandages' gives a gravity to the case which may mislead, and that plaster is generally sufficient, more expedient, and less expensive. Nor is it advisable to



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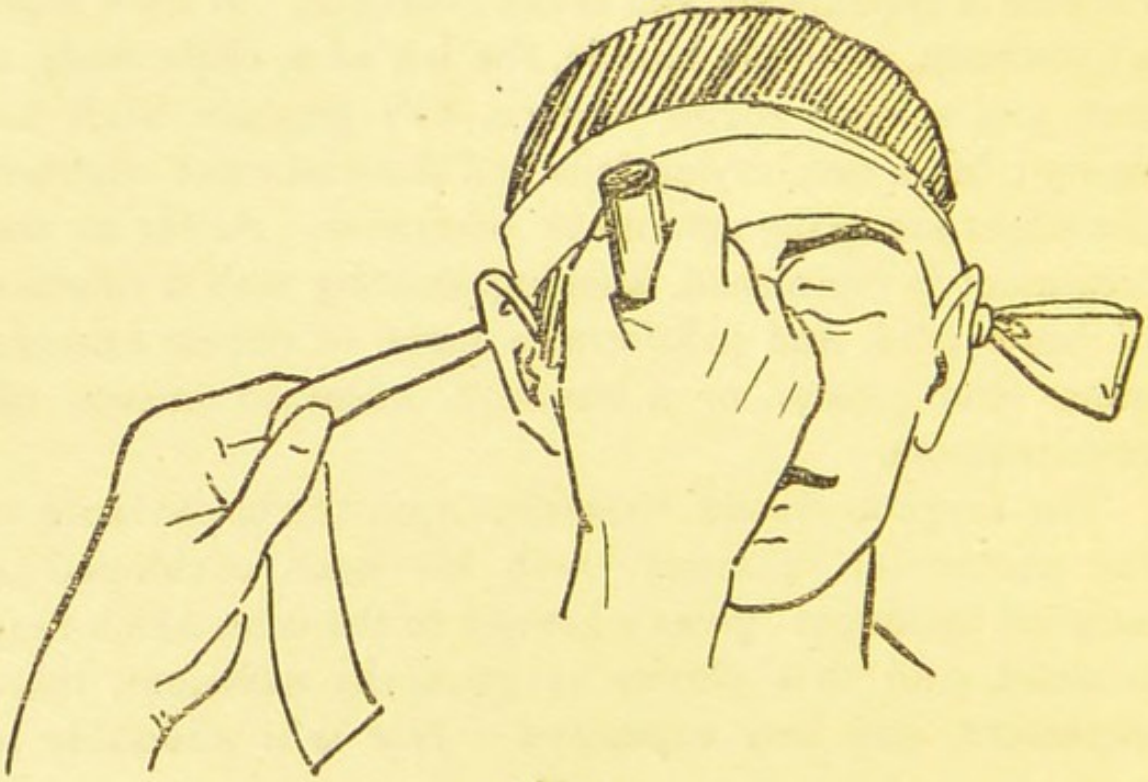

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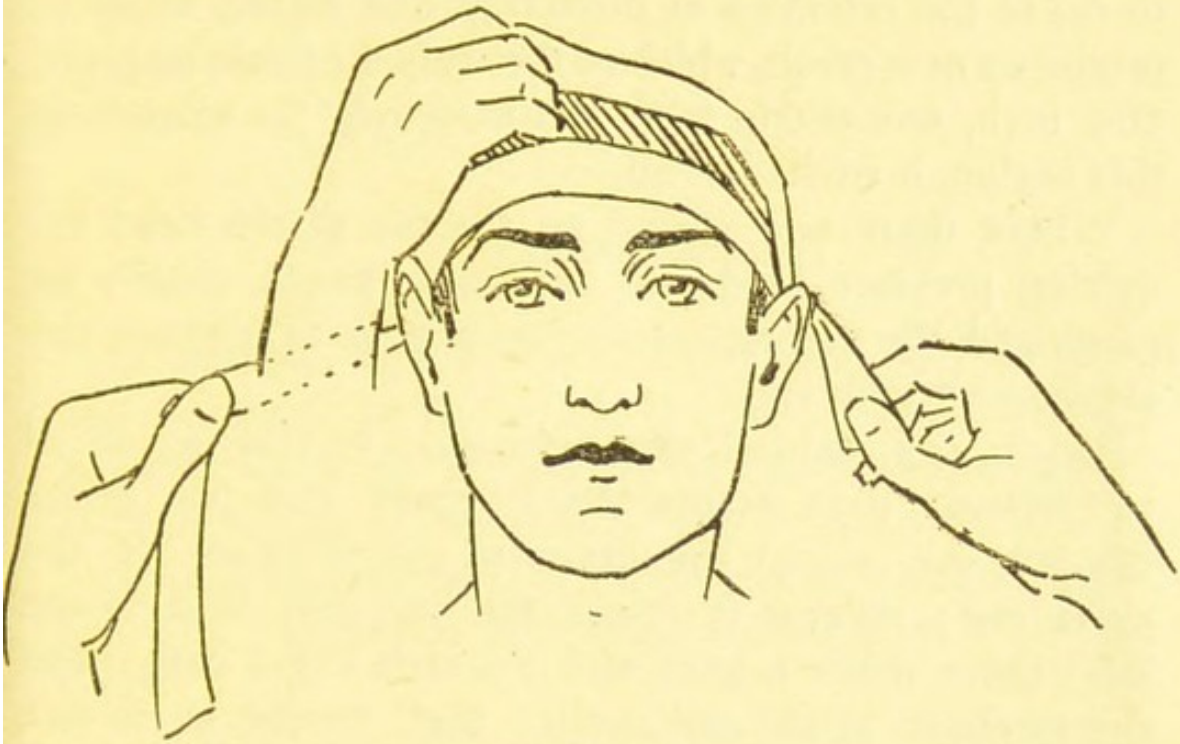

FIG. 4.

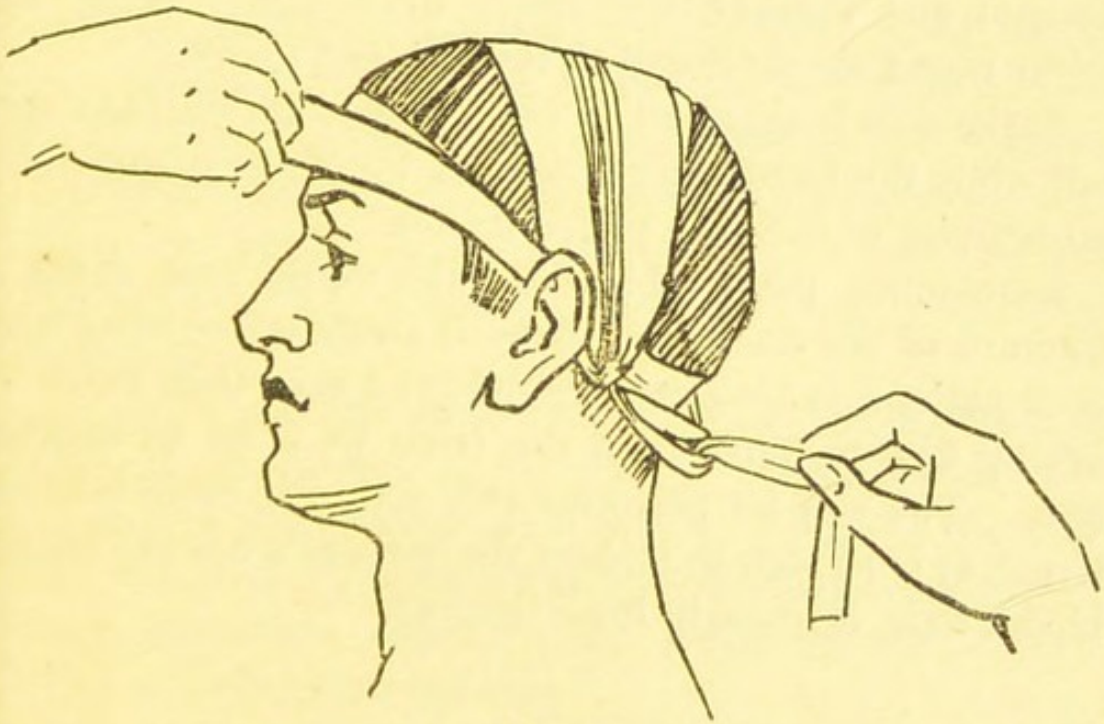

FIG. 5.

stitch a scalp wound closely. It is a painful process, apt to cause the retention of discharge, and merely tends to produce a neat result, which on the scalp is of little moment. One inch, one stitch, is the author's rule for wounds in this region, if stiched at all.

Where there is a wound on the top of the head requiring pressure, and two bandages would usually be employed, the author has devised a plan of effecting the same result with one.

Begin, say, behind the right ear, leaving a tail of 24 inches; pass across the forehead and just above the left ear, round the occipital protuberance to the right ear; reverse it round the tail and back to the left; there make a knot with a 2-inch loop; pass round the forehead to the tail again; then reverse on to tail, and bring the roller over the vault, under the knot, and back to the tail, as often as may be necessary, finishing this movement at the knot. Pass the tail round the occiput and through the loop; draw tight; bring the roller round the forehead to the tail, and tie off.

Assistance is required to keep tension on the loop and tail while the bandaging proceeds, but there is generally no scarcity of that in a police-station.

Remember that a blow on the vertex may cause a fracture of the base, and make it a rule to converse with your patient, to look at his pupils and ears, then finish by asking him to move from the chair he is on to another one. The way he performs this action is often instructive. It is as well to inspect the patient's hat or cap, for blood, hair, or cuts, in head injuries.

BRUISES.

THE rapidity with which a bruise develops, its extent, and the depth of its colour, are more indications of the resisting capacity of the victim and the anatomical position of the injury than of the violence of the blow. The same violence applied to the eye of a pugilist and to a society lady would obviously produce widely divergent results.

Children, especially those having a tubercular diathesis, bruise easily. In such it is often possible to demonstrate the fact by writing, on say the flexor surface of the fore-arm, the child's name with a blunt pencil. Some pressure must be used, and in a few minutes the writing will project sufficiently to be read by passing the fingers over it.

Further, it is not at all uncommon to find bruises on the inner aspect of the upper arm, caused presumably by the police-officers when making the arrest, and of which the prisoner has made no complaint and even has no knowledge.

Kicks about the abdomen, administered through thick clothing on to soft parts with no bony substances to arrest the force, often show serious injury to the viscera and no *surface discoloration*. In alleged kicks about the body, therefore, instruct your police not to brush the clothes before your arrival.

Ecchymosis may be delayed for days, and may appear at some place remote from the seat of injury, according

to the part injured. The information to be gained from it is, therefore, of doubtful value, even as far as to differentiate between ante- and post-mortem wounds, because, while a contusion inflicted before death will cause hæmorrhage into the true skin, the same effects have been noticed up to three and a half hours after it.

A bruise disappears from periphery to centre; therefore, an old bruise seems to be smaller than a recent one of originally equal size.

Occasionally the shape of a bruise will give a direct hint as to the mode of infliction: finger-marks on the throat, etc.

However much the surgeon may sympathize with a child knocked about by its parents, great care must be taken not to include old bruises with new ones.

The writer believes he has observed that bruises which have been bathed with *warm* water present more swelling and a deeper colour than those otherwise treated.

DYING DECLARATIONS.

YOU may be called upon, in the absence of a magistrate, to take a dying deposition. There is no difficulty. You should have a witness if possible who should be satisfied with you, that the deponent believes himself to be at the point of death without hope of recovery.

Begin in this way :

Question. Do you believe that God will judge you hereafter ?

Answer. I do.

Question. Do you believe that you are at the point of death, without hope of recovery ?

Answer. I do.

Write down the exact words as far as they refer to the matter in hand ; and if you have to *interrogate*, write down the actual wording of the question as well as the answer. Read it over and make the declarant sign it, if able to do so, then sign yourself and your witness.

MURDER.

THIS is the call to which every inexperienced man answers with a haste which he repents at leisure. Proceed with the most cautious deliberation. Take with you paper and pencil, indiarubber, a tape measure, a lens, two microscopic slides in a box, and a pair of old gloves.

Note the time you receive the call and when you arrive upon the scene; if in a house, put on your gloves, because the authorities at Scotland Yard have no time to waste examining your finger-prints. Satisfy yourself that death has taken place, without disturbing the body if possible. Sketch the position of the corpse and its relation to the surrounding objects. If there is a thermometer in the room note what it registers, and the temperature of the body, noting also its clothes or coverings. The body cools under normal conditions in about twenty-four hours, at the rate of 1½ degrees per hour, subject to the existing circumstances.

Cadaveric Spasm.

If there is anything in the hands, observe whether it is tightly grasped or otherwise—cadaveric spasm or death clutch distinct from rigor mortis. Put any hairs or shreds of clothing found adhering to the fingers between the slides.

Rigor Mortis.

Note the presence of rigidity, which comes on, roughly speaking, in four hours, passing downwards from the lower jaw to the feet, passing off in the same order, and lasting about twenty hours. *It is early* in violent and sudden death, especially after mental excitement or physical exhaustion—*e.g.*, soldiers found dead in a kneeling posture and with their rifles presented. *It is late* in asphyxia, hæmorrhage, wounds of the heart, decapitation, and in strong muscular subjects without exertion.

Cadaveric Lividity.

Cadaveric lividity comes on, or more correctly becomes apparent, in about eight or ten hours. It is merely the gravitation of the blood to the more dependent parts, and sometimes looks like bruising. An incision will show *puncta cruenta*, the open mouths of small bloodvessels (use your lens), as opposed to the effusion into the tissues of ecchymosis.

If you have a crinkled surface to deal with, pull it straight, and in lividity the colouring will be irregular, while, if due to disease or injury, it will be uniform.

Putrefaction.

If you see signs of putrefaction, which commences as a rule when rigor mortis has passed off, and showing first in the abdomen as a greenish tinge, you have days instead of hours to calculate for the time of death. This sign is, of course, greatly influenced by climatic conditions, previous health, and age. Three days is given as

the average time for its appearance. Slow in water, but very rapid when taken out.

The Eye.

Look at the eye. Note whether prominent or sunken, the tension, the colour, the pupils, transparency, and the presence of wrinkling or glairy mucus.

Other Points.

You need not take minute notes about the injuries, as they will be thoroughly dealt with in the post-mortem.

Satisfy yourself as to whether the bed has been slept in, by how many persons, the amount of urine in the chamber—criminals in their excitement often micturate, and sometimes defæcate, on the scene of their exploits—whether the window is bolted or the lock of the door forced.

Take plenty of time. *Write* down as much as possible, and *say* as little as you can.

Do not let the police think you are intruding upon their province—it is not your business ; but, short of that, you must gather all the information you can to assist your opinion.

Do not allow yourself to be influenced by the statements of persons 'who saw the eyes move,' or the victim 'draw breath,' long after you know death must have occurred.

The author was present when a medical man of large experience thought he saw 'the eyes move'—a most unlikely thing—in a man who had sent two revolver bullets through his pons three-quarters of an hour previously, and had been under skilled observation for half an hour.

The police are waiting to know how long life has been extinct, and your answer to the question may be the crucial point of the case. The cooling of the body is the best point, and the temperature should be taken in the rectum or vagina. No single fact is sufficient; a careful consideration of the circumstances can alone enable you to give an accurate reply. If you are wrong you will look a fool, and if right a wise man. The author has done both.

RAPE.

SOME authorities state that this crime on an adult has no existence in fact. The author, who is not an authority, in an experience of many years has only seen one such case.

It took four men to do it, and the woman walked quietly to a stable-door in ignorance of their intention. Before she was thrown down and her mouth stuffed with straw, she managed to create such an uproar that a constable's attention was attracted, assistance obtained, and all the men captured. On examination, pieces of straw and horse-dung were found about her lips and teeth, which, with other signs of violence, showed her resistance was genuine and prolonged. Three of the men were sentenced at the Old Bailey to long terms.

While the charge is extremely common, the actual offence is undoubtedly very rare, and the utmost caution should be exercised in examining the prosecutrix.

It is obviously to her interest if she fears the consequences of her act, or believes herself to have been observed, to take refuge under a false charge; not to mention that people frequently believe themselves to have been drugged when they are merely under the influence of alcohol.

Definition.

Rape has been defined as the 'carnal knowledge of a woman forcibly and against her will.' Emission need

not be proved, and the slightest penetration is sufficient to constitute this offence, as also that of 'carnal knowledge.'

The term 'rape' is usually applied to offences committed upon females over the age of thirteen years; *under* that age carnal knowledge is a felony, whether consent has been given or force used or not.

Carnal knowledge of a girl between thirteen and sixteen, even with consent, is a misdemeanour, and *above* sixteen years *consent* does away with any offence in law.

Many of the cases to which the last paragraph relates collapse when the defence can show that the prosecutrix has the appearance of being *over* sixteen, even though she is younger in fact. Whether the victim is chaste or otherwise has no bearing on the legal aspect of the case, although it may influence the minds of the jury.

Carefully note the time that you are called by some reliable clock. If the prosecutrix is wearing the clothes she had on when the offence was committed, examine them for recent tears and stains. Attach great importance to recent bruising on the inner aspect of the thighs, as injuries *there* have a more powerful bearing on the question of consent than injuries to the genitals, because the latter are often consistent with a permitted intercourse. Having established the extent of the injuries, remove the contents of the vagina with an egg-spoon, and preserve between your microscopic slides for further examination. A forced lock or window-bolt is an invaluable piece of information in these cases.

When the charge has not been brought till a time remote from the date of the offence, your evidence is of little value. There is no legal limit to this interval, except where the female is between thirteen and sixteen, when the limit is six months.

You may be required to examine the prisoner. Inform him *yourself* that you are the police-surgeon, and that you understand that he *desires* you to examine him. This is the duty of the police, and if you are present when it is done you need not, of course, repeat it. If he consents, you proceed to examine the outside of his trousers ; seminal stains so found have a weight which on his underclothes they have not. Examine the penis for ruptured frænum, blood, or vaginal secretion. Remove all suspicious stains.

The fingers may show blood, or have the characteristic odour of vaginal secretion ; his handkerchief may show blood, etc., and his clothes, collar and tie especially, may show signs of a struggle.

The law protects females, then, as *per infra :*

Indecent assault upon any female is a misdemeanour. If the female is under thirteen, consent does not constitute a defence.

Connection without consent (rape) is a felony at any age. A man who induces a married woman to permit him to have connection with her by personating her husband is guilty of rape.

Connection with or without consent is a felony to the age of thirteen years.

Connection with or without consent is a misdemeanour from thirteen to sixteen years.

Connection with consent is no legal offence over the age of sixteen, unless the girl is withdrawn from the custody of her parents or time-being guardians for immoral purposes (abduction), which is a misdemeanour, and this is operative till the age of eighteen years. To procure or attempt to procure any female under twenty-one years of age, not being a common prostitute or of known immoral character, to have unlawful carnal connection is a misdemeanour.

Procuring any female to become a common prostitute is a misdemeanour.

Procuring any female to leave the United Kingdom with intent that she may become an inmate of a brothel elsewhere is a misdemeanour.

Procuring any female to leave her usual place of abode in the United Kingdom (such place not being a brothel) with intent that she may, for the purposes of prostitution, become the inmate of a brothel, within or without the King's dominions, is a misdemeanour.

By threat procuring any female to have unlawful carnal connection is a misdemeanour.

By false pretences procuring any female, not being a common prostitute or of known immoral character, to have unlawful carnal connection is a misdemeanour.

Applying or administering to any female any drug, matter, or thing with intent to stupefy or overpower, so as to enable any person to have unlawful carnal connection with such female, is a misdemeanour.

Any owner or occupier of premises inducing or suffering a girl under thirteen to resort to such premises for the purpose of being unlawfully and carnally known by any man commits a felony ; if the girl is between the ages of thirteen and sixteen, a misdemeanour.

Detaining any female upon any premises with intent that she may be unlawfully and carnally known by any man, or in a brothel, is a misdemeanour.

UNNATURAL OFFENCES.

Bestiality and Sodomy.

Bestiality and **sodomy** are in the eyes of the law synonymous offences, and should be looked at by the police-surgeon from the same point of view as rape (see section thereon), remembering that, as far as sodomy is concerned, the question of consent does not arise.

Sodomy, or buggery (the latter is the legal term), implies the introduction of the penis into the anus of another animal for sexual purposes. The actual wording of the Act is 'with *mankind* or with any animal,' and it has been held that women are included under one or other of these divisions.

It seems to be usual for the man to use his hands to introduce his organ in the sexual act, but many men do not do so ; and if certain women are to be believed, they take advantage of this fact to pass the male organ over the vulva and into the anus, to avoid the risk of impregnation. This for what it is worth : it is hard to believe, and harder still to prove ; but it would be well to bear the statement in mind.

The author was called to examine a boy of seventeen years who had, under threats, been repeatedly sodomized by the mate of the ship in which he was an apprentice. A certificate was to hand from a medical man in an American port, which set forth that a laceration of the sphincter ani was found on examination. Three weeks

later—the date the boy arrived in London—this laceration was still visible, and a fœtid discharge was evident. According to regulations, the prisoner was examined, and his penis became immediately erect on the approach of the examining finger. This man was sentenced to seven years' penal servitude at the Old Bailey.

But the evidence is not always so clear as in this case and the examiner should take care not to be misled by irritation due to worms, etc.

Bestiality.—In these cases the proof is generally as to fact, and the medical evidence inconclusive, although occasionally hairs of the animal, etc., have been found on the criminal.

Exposure of the Person.

This is a common offence in men advanced in years, and if the author's opinion is worth anything, it is the result of irritation of the sexual organs from prostatitis or stricture. In aged men the natural condition would seem to be one of quiescence ; when it is otherwise some urethral trouble is generally to be found. The romantic story of 'Faust' would, from this point of view, have its origin in this source.

It should be remembered that a charge of 'unnatural offence' is the commonest weapon of the blackmailers, and with this remark an unpleasant subject may be dismissed.

VARIOUS INJURIES.

POLICE-SURGEONS cannot fail to be struck by the enormous number of drunken persons who fall and sustain a lacerated wound at the outer end of the *left* eyebrow.

The author's investigation into this circumstance is not yet complete, but he is nearly satisfied that it is due to the fact that the patient is right-handed, because where the wound is on the *right* side he has been so frequently informed that the patient is either left handed or ambidextrous.

This may be on all fours with the observation that a right-handed man in the desert without a compass will, in his endeavour to keep a straight line, deviate insensibly to the left.

When accidents occur in the streets, it is often necessary to apply first aid before your arrival, and it will be expected that your approval will be mentioned in the occurrence book. Do not do so unless you are satisfied that such assistance was really required, or you may find the young constables, elated by your praise, applying splints to sprains and converting simple fractures into compound in their haste to get things put up before you appear. You would not, of course, withhold your approbation when it is merited.

Recently a provision merchant A started a shop opposite provision merchant B, who had been estab-

lished many years and refused to leave, to the great annoyance of the newcomer. But A had an enterprising friend C, who one evening tripped over something B had exposed for sale, fell and fractured his spine, presumably with a view to heavy damages against B. His legs being paralyzed, it was clear to six constables that the diagnosis was established. They took a door off its hinges, placed the patient on it *secundem artem*, and, followed by an excited crowd, they reached the police-station, where the door and contents were admitted after considerable barking of knuckles. The writer was called and hastened to the scene. Under examination the patient's legs were quite motionless, and vigorous pricking with a pin produced no result. On passing a hand under the shirt and over the spinal column, he said, 'Stop that: you're tickling!' and in quick time he was kicking about with surprising energy. In response to an order to 'get up and clear out'—punctuated by one of the constables who had barked his knuckles—he arose and announced his intention of going to the hospital. He was begged 'not to omit to tell the house-sugeon that his back was broken,' and left the station in not a little disgust. Precipitate first aid is not always a success.

You will not be a police-surgeon long before you see an injury close upon an inch in length, and consisting of two, sometimes three, geometrically parallel cuts. It is generally on the head or face, and there is considerable bleeding. A fork may occur to your mind, but it is inflicted with a *closed* clasp-knife, and the parallels represent the divisions between the blades.

Dog-Bites.

The regulation is that all dog-bites in police-officers must be cauterized. It states absolute phenol is to be used,

but not to what extent. It will be generally admitted that to apply caustic in quantity to the bite of a healthy dog after the delay of, say, an hour, is only to aggravate the mischief. The author cauterizes in such cases sufficiently to meet the rule and to act as a placebo ; he then applies a hot fomentation and iodine.

Human Bites.

These are most common on the knuckles, and show no opposing wound on the other side of the member.

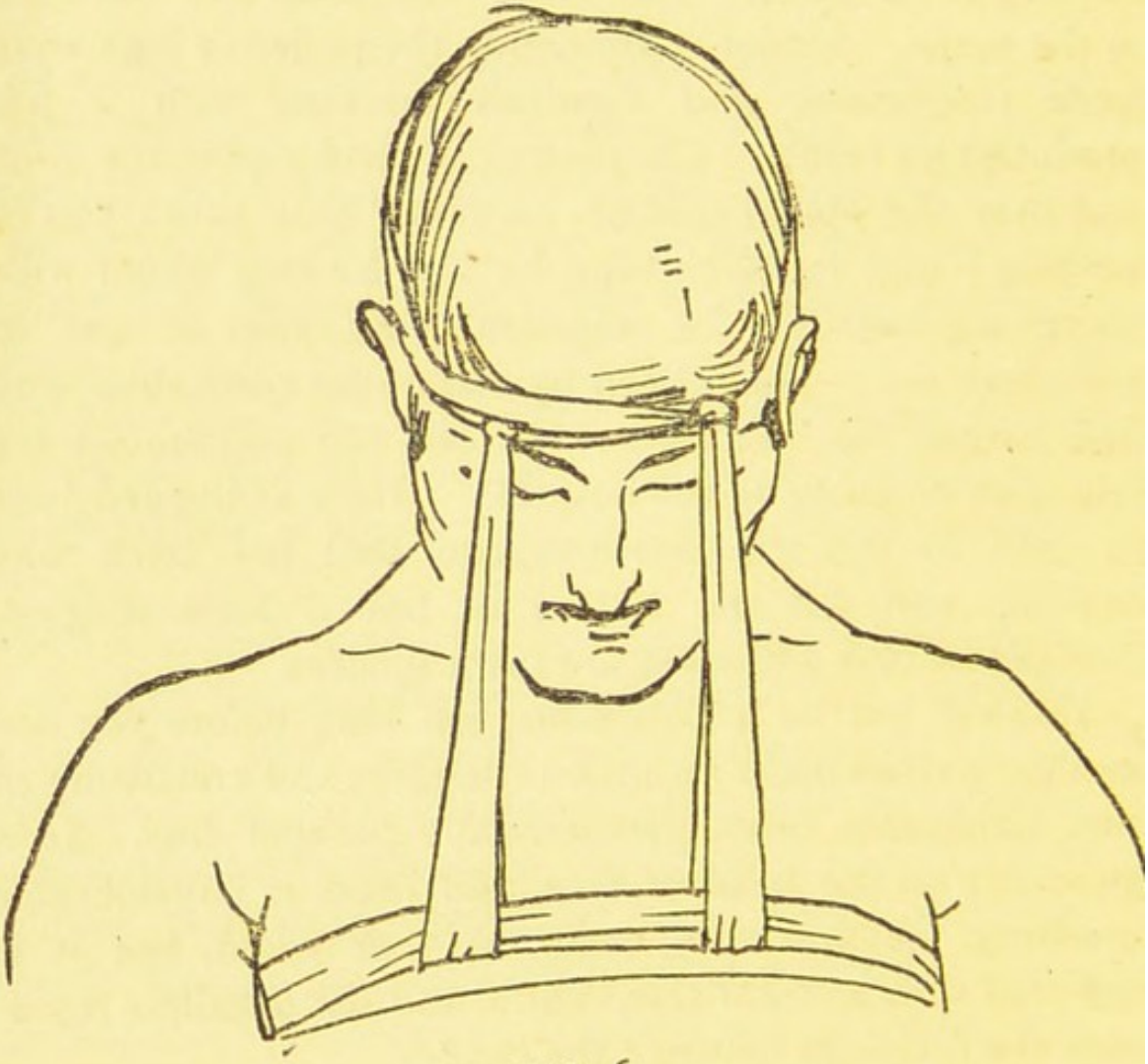

FIG. 6.

You may be of the opinion that they are really back-handers on the mouth ; but be that as it may, they often enter the joint and give rise to considerable trouble. It

is best to put on a splint at once and boracic fomentations. Human bites, of course, require thorough antisepsis, and should be encouraged to bleed by bathing with tepid water. These wounds should not be closely stitched because the healing is generally protracted.

Cut Throats.

Cut throats in which the great vessels are severed are generally beyond aid, but those opening the air passage only, are different. Be careful to stop the bleeding before you apply dressings, because, if you force the stream of blood into the larynx, your patient will be apt to die in about a fortnight from pneumonia. Put a bandage round the chest and another round the forehead and occiput with tails, which will enable you to force the chin down on the sternum.

See the patient placed on the ambulance yourself, because if the head is not well supported it falls back, bursts apart your bandages and dressings, and your first aid would fail.

Self-inflicted Wounds.

Self-inflicted wounds may be numerous and of great severity. Like a soldier's wounds should be, they are always in front. The author was called on one occasion to a gentleman (a brother practitioner) who had cut his chest with a table-knife to such an extent that in several incisions—some of them 6 inches long—the ribs were exposed. These injuries began above and ran downwards, tapering off at the lower extremity. They were deeper on the left side—a right-handed man. The night-shirt he wore *was not cut*. All his silver plate was subsequently found concealed in a sofa cushion, and no sign of burglarious entry could be discovered.

Self-inflicted wounds and wounds not self-inflicted may coexist. The writer was called to a man who said he had been set upon by three men, who cut his throat with a razor. This incision—on the left side of the neck—was clearly self-inflicted, and there was a large lacerated wound under the chin, which was equally clearly otherwise. A personally-conducted expedition brought to light the facts of the case. There had been a family squabble; the man had rushed into his own room, cut his throat with a razor, jumped through the window, and landed on a wire clothes-line 20 feet below, which had saved his life at the expense of his chin.

Burns and Scalds.

Where children are burned or scalded, the danger of subsequent death from shock is so great that even in comparatively slight cases it is advisable to remove to the hospital.

Malingering.

You will frequently be called to persons who, for obvious reasons, simulate illness. A sympathetic demeanour and an ostentatious use of your thermometer and stethoscope are the best cards to play. They can usually be led to describe contradictory symptoms with a little help from you. A dose of medicine may be prescribed, and you should suggest that, if it is necessary to call you again, you will bring an electric battery or a stomach-pump with you. If in doubt you can order a special watch to be kept and fill up Form 17 for the infirmary. All you need say upon it is, 'Ill and destitute'; and if the patient has money, a card for the hospital, which the inspector can use if the symptoms continue.

Where you have women advanced in pregnancy to

deal with, it is wise to accept the position, and get rid of the case by immediate bail.

So much for malingering in the police-station ; but the examination of the malingerer in his private house is a different matter. Here, again, a sympathetic demeanour is essential, the slightest sign of hostility will close the patient's mouth. Get rid of the wife at once ; say that some of the questions you are about to ask are not suitable for ladies' ears.

If the patient is in bed, notice if his clothes are at hand. The presence of a pair of slippers will tell you something, and a pair of boots will tell you more.

If all his clothes are there *except the coat*, he probably walks about the house. If the coat is also there, he probably goes out. Workmen rarely wear their coats in the house, and rarely go out without them.

Suppose he is up, but has a weak leg which necessitates a stick : look at it and quietly notice whether it is worn down at the ferule. It may be a weak arm : ask 'if he smokes ?' 'strong or mild tobacco ?' 'may I look ?' If he takes his pouch from his pocket, he fills his pipe himself, which requires both hands.

A workman's bed is practically always against the wall. Ask him casually at which side of it he sleeps. If a man is incapacitated his wife puts out the light, goes to bed last, gets up first, and almost certainly sleeps on the outer side. Remember a man requires both hands to shave himself, and both legs to go out to get it done for him.

Anyone using a stick constantly will have a corn or something approximating thereto on the hand employed. This, of course, is modified by the pre-existing skin condition, as, for instance, the hand of a navvy, which is too hard to take such an impression.

The writer once examined an employee of the London

County Council who had paralysis of his lower limbs, as a result of compressed air illness, and detected a fraud, or at any rate a partial fraud, by a very simple means. He distracted the patient's attention by asking him the time, and then dropped a glove on the floor. It was easy, of course, on leaving to look back and say, 'Have I left a glove?' The paralyzed sufferer had picked it up and was half-way across the room to return it before he realized his error.

A man complained that he, as the result of an accident, was blind of the right eye. Expert examination detected no difference between the organs. An unexpected visit was paid him and he was placed before a mirror. He was then told to shut the right eye (the blind one, that is) and to place his finger on it upon the glass. Having done so, he was asked to open that eye and shut the other. His face clearly showed his astonishment when he saw the finger had changed eyes.

In two-floor houses, where one family lives upstairs and one down, it is usual to knock twice when the former and once when the latter is wanted. It is possible, by reversing the knocks, to obtain admittance without your patient knowing of your arrival and preparing accordingly. The postman's double knock will often serve the same purpose.

Of course, all this is very unpleasant deception for a medical man to practise, but justice to all parties concerned demands it. It may enable you to say, 'This is a fraud,' but, on the other hand, you may often have the pleasure of stating your opinion that the claim is genuine.

Separation of Ribs from Cartilage.

Blows on the ribs or sternum frequently produce a separation of the bone from the cartilage, and the ques-

tion arises, is it fair to describe this as a fracture? This injury probably requires less violence than a solution of the continuity of the bone, and it is not covered by the definition of fracture (see Definitions).

It is better to call it a dislocation ; and although it is generally the result of direct violence, the author has seen it produced by a shampooer in a Turkish bath putting his weight on the back of a bather.

Separation of the Epiphyses.

Separation of the epiphyses—which occurs, of course, under the age of twenty-one years—would be correctly described in the witness-box as a fracture.

Falls from a Height.

Remember in falls upon the feet the possibility of fractured base.

Upper Cuts.

A blow under the point of the chin, designated by pugilists an 'upper cut,' produces concussion by the transmission of the force to the thin plates of the articulating surfaces on the temporals.

Death in Fires.

Deaths by the clothing catching fire are most common in children and suicides. The deaths met with in burning houses are usually from suffocation due to smoke, and, as far as human life is concerned, the inflammability of the contents of a room is practically as important as its structure.

INQUESTS, ETC.

THE coroner has power which, if put strictly into force, would seriously handicap the public utility of the medical man. The moment a person is found dead or dies from accident the body comes under the jurisdiction of the coroner, and must not be moved, nor must any post-mortem examination be made. The opening of an eyelid would constitute an illegal *interference*, strictly speaking, and searching the body for injuries would be equally so. No coroner would think of enforcing so stringent a rule, and it is usual for medical men to examine the pupils for inequality, the ankles for œdema, and the body for major injuries. Some coroners allow rather more latitude to the police-surgeon.

Be careful how you allow severely injured persons to be brought into your premises, because if death should ensue you have no power to secure the removal of the body without the coroner's order, which may take hours —perhaps all night—to obtain.

The coroner has power to summon either the medical man who attended the deceased person during the last illness or any medical man in practice in the district—generally the one who first attends after death. The coroner's power to call in a practitioner *other* than one coming under the above heads is not clearly defined; but only physical incapacity (with medical certificate) will excuse your non-attendance, and if you are so

summoned you may refuse to give an opinion without an autopsy, or you may refuse to give an opinion at all.

The coroner has power to hold an inquest as soon as he can get his jury and witnesses together ; and it comes to this, that *if* he decides to hold his inquiry two hours after death you might have to make your post-mortem examination one hour after the decease. This is how the law stands, but it is usual to allow twenty-four hours to elapse before such a proceeding is contemplated. A post-mortem examination is legal at any hour of the day or night, also on *Sundays*, this being a *ministerial*, not a *judicial* duty.

If your professional conduct of a case is called into question, the post-mortem is conducted by another ; but you may be permitted, with the consent of the coroner, to be present or represented—of course, without fee.

Do not force your presence on an inquiry that concerns you, because it is usual for the coroner to adjourn an inquest in which a medical man's conduct is seriously called in question for the attendance of that person, and to assume a posture of defence is to invite a blow.

Do not wax indignant if, after you have been called to a bad case of cut throat, you are not summoned to the inquest. The cause of death may be obvious,* and may be clearly proved without your assistance. Similarly, where a known man is seen to fall or jump into the water and meet his death, your evidence that death was due to drowning may be of no value. In the absence of identification or eye-witnesses, your evidence would probably be required ; and remember that in the case of a body taken from the water no safe opinion as to drowning can be given without a post-mortem examination.

* Dr. F. J. Smith, who has been kind enough to revise this book, desires to dissociate himself from this opinion.

Safeguard yourself by saying 'the appearance of the body is consistent with death by drowning.'

Bear in mind that syncope may follow immersion with great rapidity, and in such an event the usual signs may be either indefinite or absent.

The author is of opinion that a post-mortem should be made to safeguard human life—an interest which is superior to a monetary one—in *all* cases of bodies found presumably drowned.*

The police-surgeon is called to inspect a body taken from the water, and he is asked to decide—

(*a*) How long the body has been immersed.

(*b*) Whether there are any injuries.

The body floats in the water with the head low, and when examined the head and face are of a deep red to blue colour, swollen to great size, with blood oozing from the nose and mouth, and the pupils flaccid. It is obviously impossible to say whether there is a fracture of the skull or not, or even whether there is a black eye.

This opinion is, as has been said, subject to the production of evidence that the deceased was *seen* to fall or jump into the water, and perhaps evidence that he or she intended so to do.

The loss to the public purse, if a post-mortem is unnecessarily performed, is 21s.; but the loss if one is not performed may be far-reaching.

Important Points not to be overlooked for the Purposes of Inquest.

Drowning.

Alleged Drowning.—The tongue between the teeth and the hands clenched, as suggesting drowning. The

* Dr. F. J. Smith adds, 'and in all others.'

fly of the trousers open: many drunken men, urinating near the river, docks, etc., fall in. Money on the person.

Cutting.

Suicide by Cutting.—That the starting-point of the wound corresponds to the hand which holds the implement or has blood upon it. For instance, if the left carotid is cut, and the implement is in the *right* hand, the starting-point should be the left extremity of the wound.

Notice if the implement is gripped—cadaveric spasm (see heading Murder). Further, if the door has been locked, and the presence of food and money in the room.

Hanging.

Suicide by Hanging.—If the feet are on the floor, the question of murder hardly arises, because a body suspended by a murderer, to give the appearance of suicide, would almost certainly be completely suspended. If without support, look for an overturned chair, etc. (the origin of the saying, 'kicking the bucket').

Hanging is usually the would-be-suicide's last effort. They take poison and vomit it: they use the knife and do not cut deep enough: they try the river and get pulled out: they jump in front of a train and fall between the metals: but when they try hanging they generally succeed.

An early effect of this act seems to be a general paralysis, and the end quickly follows. It is very common to find a seminal emission round the penis. Women rarely hang themselves.

Overlaying.

Overlaying of Infants.—Signs of pressure ; presence of post-mortem lividity or rigidity.

Pay no attention to the mother's statement that 'the child was alive at 6 a.m.' Children are overlain in the early hours of the night, when the parents go to bed intoxicated and their sleep is profound.

Shooting.

Suicide by Shooting.—A large wound of entrance, and not as a rule through the clothes.

Poisoning.

Suicide by Poisoning.—The presence of other means of taking life—revolver, other poisons, etc.

Coal-Gas, etc.

Suicide by Asphyxia.—Notice whether the door has been locked and the windows closed. This is practically invariable (see Poisoning).

Murder.

Murder.—See chapter thereon. Be not misled by the fact that the hands are tied with considerable firmness in cases of hanging and drowning. It is surprising how thoroughly this can be performed by intending suicides. The swelling of the hands in both cases, and the tightening of the rope by the action of the water in the latter instance, give the appearance of a more thorough restraint than the facts warrant.

DEFINITIONS.

YOU will frequently be asked for definitions, and it is well to give them as briefly as possible.

Wound.

A wound is a 'recent solution of continuity in the soft parts suddenly occasioned by external causes.'

Another: 'A solution of continuity of the tissues due to injury.' This would seem to cover simple fractures unless the word 'soft' is introduced before 'tissues.'

You will find in the police-station that there are two charges here applicable—(*a*) 'unlawful wounding,' and (*b*) 'causing grievous bodily harm,' and that the broad distinction there drawn is the external effusion of blood, except, perhaps, in the case of burns.

Actual bodily harm includes any injury, whether permanent or otherwise, calculated to interfere with the health or comfort of the person so injured—whether with or without a weapon or what weapon is immaterial.

The transmission of venereal disease between husband and wife does not come within the meaning of the Act: it is not even an assault.

Fracture.

A fracture is a 'sudden and violent solution of continuity of a bone.'

Poison.

'A poison is any substance' (solid, liquid, or gaseous) 'which, when applied to the body outwardly or in any way introduced into it, without acting mechanically, but by its own inherent qualities, can destroy life.'

Another: 'A poison is a substance which, when absorbed into the blood, is by a direct action capable of injuring health or destroying life.'

Burn.

A burn is the injury caused by heated solids or extremely cold solids (as solid carbonic acid).

Scald.

A scald is the injury caused by highly-heated liquids.

Independent Existence.

To constitute live birth the child must be living after the whole body is free from the maternal passages, which does not imply severance of the umbilical cord.

Give your evidence here with great caution, because the possibilities of cross-examination are great, the books on the subject innumerable and contradictory. The ductus arteriosus and the foramen ovale have been found closed before birth, and *all* the fœtal vessels as well as the foramen have been found patent in children who have lived for several days. If, however, with other signs you can show the presence of milk in the stomach or intestines you are in a strong position.

Rape.

Rape is the 'carnal knowledge of a woman forcibly and against her will.' *She must resist to the utmost of her power.*

Professional Evidence.

Evidence as to facts which have come to a medical man's knowledge in the ordinary practice of his profession as a physician or surgeon.

Expert.

A physician or surgeon to whose notice a case with which he was previously unacquainted is brought expressly in order that he may qualify himself by *his special knowledge* to give evidence of facts ascertainable by him, or evidence of opinion where such opinion is admissible.

Qualifying.

Work done or research made by a witness to enable him to give evidence—*e.g.*, analysis, microscopical examination, or perusal of authorities.

FEES.

In Civil Cases.

IF a medical or surgical case seems likely to become the subject of a civil action, the practitioner should make very careful notes of all circumstances connected therewith, and upon such notes base any report which may afterwards be required.

This report, for which he should at the proper time make such charge as he thinks adequate, will, if carefully drawn, assist him in giving evidence, and should, if the action be long deferred, greatly help him in 'qualifying' to give evidence, for which also he may be allowed fees.

He should never give a report to any person interested until the question of his fees is settled, by undertaking or otherwise, as solicitors and their clients are apt to minimize his services when they are no longer of importance, if, as so often happens, the settlement of his account is left over until after trial of the action.

The amount allowed by associate or taxing officer is often far below the sum expected, and no doubt properly chargeable, for report and evidence.

The fees allowed in civil actions are entirely in the discretion of the taxing officer.

In the High Court of Justice the usual allowances are: for giving ordinary evidence of fact from £1 1s. to £3 3s. a day.

For giving scientific evidence the allowance varies

between £1 1s. and £5 5s. per day, with similar allowances for report and qualifying.

At the County Courts the usual allowances for giving ordinary evidence of fact are from 15s. to £1 1s. per day, with allowances for giving scientific evidence similar to those obtaining in the High Courts of Justice.

In Criminal Cases.

If a case to which a practitioner is called seems likely to result in a criminal charge, he should take similar precautions to those suggested above, but in the matter of fees his position is a different one.

If subpœnaed or served with a witness summons, he must, unless physically incapacitated (for proof of which a medical certificate will be required), attend at court.

Maximum fees for attending to give professional* evidence:

At a court situate in the municipal borough or urban district in which he resides or practises, or within three miles of the address at which he resides or practises—in one case, £1 1s. a day; if actually giving evidence in two or more distinct cases, £2 2s. a day; for attending elsewhere to give such evidence in one or more cases, £2 2s. a day. It must not, however, be assumed that in the latter case the maximum will be allowed. An attendance at a court four miles distant from home or surgery will not necessarily entitle the witness to such an allowance as he would receive if the distance were so great as to cause his detention at the place of trial for a night.

* See Definitions, p. 61.

If he attends to give evidence (other than professional) he may be allowed a sum not exceeding 7s. a day and 5s. for each night necessarily detained from home.

Half fees only are allowed if the witness is detained from home or practice less than four hours each day.

Absolute discretion is vested in the taxing officer up to the maximum, and care should be taken to bring to his notice any circumstances which may justify him in allowing the maximum—*e.g.*, detention all night or employment of locum tenens.

Travelling allowances are at the following rates:

When attendance is from a distance of over two miles from court:

1. Fare actually paid for railway or other public conveyance. (First class is not allowed unless it be shown that this class is ordinarily used by witness.)

2. A sum not exceeding 1s. per mile each way when no railway or other public conveyance is available.

3. A sum not exceeding 2d. per mile each way for travelling on foot or by private conveyance.

Fees are also allowed for microscopical and analytical examinations necessarily made.

If a practitioner be summoned to give evidence, either 'professional' or 'expert,' under the provisions of the Poor Prisoners Defence Act, 1903, his remuneration is limited to £1 1s. a day, except under special order of presiding Judge.

If a charge at a police-court, being for an indictable offence, is dealt with summarily, or there is a committal for trial, application should at once be made to the proper officer for the allowances for travelling and personal expenses, and for a certificate for fees allowable for any microscopical or other examinations which may have been made. A medical practitioner giving evidence as

an 'expert'* should, if necessary, also apply for the certificate applicable to his case, especially if time has been spent in 'qualifying.'†

Coroner's Court.

For attending to give evidence at an inquest where no post-mortem examination is made, £1 1s.

For making a post-mortem by direction of coroner, with or without analysis of contents of stomach or intestines, and for attending to give evidence thereon, £2 2s.

If inquest is held on the body of a person who has died in a lunatic asylum, hospital, infirmary, or other medical institution, whether supported by endowment or voluntary subscriptions, the medical officer of such institution whose duty it may have been to attend the deceased is not entitled to such remuneration.

N.B.—A practitioner failing to obey a summons issued by a coroner is liable on summary conviction to a fine of £5.

* See Definitions, p. 61.

† *Ibid.*

POISONING.

A USEFUL adjunct for syringing ears is a tin wine-funnel with a perforated plate soldered in about half an inch from the top, and an indiarubber tube attached to the lower end, which can be led off to a vessel on the floor. If your stomach-tube is utilized for this purpose, it will always be at hand and in working order when the cry of 'poisoning case' is raised. It should have several holes near the end, as a solitary one is apt to get blocked with food. The best guide for the use of the tube is the *condition of the mouth.* Any poison sufficiently corrosive to injure the walls of the stomach to such an extent as to contra-indicate washing out would show a marked corrosive action on the tongue and lips.

The author would like authoritative answers to the following questions:

(*a*) Has any case of corrosive poisoning in which the condition of the mouth (and therefore of the stomach) contra-indicated the use of the stomach-tube ever been known to recover?

(*b*) Would not the use of a soft rubber tube *in skilled hands* be more likely to do good by removing the poison than mechanical damage by its use?

Every police-surgeon of much experience must know of cases of corrosive poisoning in which an emetic has been administered by a layman with good results. Of

course, 'fools rush in where wise men fear to tread'; but in the light of this fact it would seem to be worth considering whether a careful washing out is not the best treatment when the case is seen early.

If you decide that the case is a suitable one for such treatment or an emetic, pay no attention to the statement that 'Dr. So-and-so has just done it,' or that 'The constable has given salt and water.' Do it yourself. No harm is likely to follow, and you look very foolish at the inquest when the constable admits that his emetic did not act very well, and that no other was given. To wash out the stomach you want at least a quart of water. As an emetic, a tumblerful with two or more tablespoonfuls of salt, or half a teaspoonful of sulphate of zinc. If you administer a hypodermic of apomorphia ($\frac{1}{10}$ grain) do not repeat the dose if it does not act, or the last condition is apt to be worse than the first, as the author could show if he felt so inclined.

If you are called to a house and suspect the poisoning is of a homicidal character, consult the section on Murder. Further, keep observation on the person who came for you; inquire who removes the excreta, who prepares the food, and who objected to a medical man being in attendance, if one has not been.

You will, of course, immediately place in jars and seal securely all excreta in the room, bottles of medicine, boxes of pills, and so forth, and instruct a police-officer to take charge thereof.

Remember that, if it comes to a post-mortem, a grain of poison in the body is worth fifty in the excreta, as the latter may have been put there with an ulterior motive, or even be accidental.

You will, of course, have to move in the matter with great circumspection.

Spirits of Salts (Hydrochloric Acid).

Symptoms and signs of corrosive.

Contra-indicated.—Stomach-tube or emetics.

Indicated.—Anything alkaline in plenty of water: whiting, chalk, wall-plaster, or soap.

Aqua Fortis—Oil of Vitriol—Acid of Sugar.

The same applies to aqua fortis (nitric acid) and oil of vitriol (sulphuric acid); also to acid of sugar (oxalic acid). Follow your treatment with a hypodermic of morphine sulphate ($\frac{1}{3}$ grain).

Carbolic Acid.

This requires these differences from the treatment of other corrosives, that the stomach may be carefully washed out till the water coming away ceases to smell of the drug. Put a tablespoonful of magnes. sulph. in each pint of water used, leave the stomach full, and finish with a teacup of olive oil. The hypodermic should be strychnine instead of morphine, as the patients have an irritating way of dying from collapse when least expected.

Salts of Lemon—Salts of Sorrel.

This is not oxalic acid, as is generally supposed, but a binoxalate of potash, which, while it is more poisonous, is not so corrosive, and the stomach-tube or emetics may be freely used, with chalk, whiting, or lime in the water, and leave milk in the stomach.

Prussic Acid (Hydrocyanic Acid)

is, in the form of the cyanides, getting a fairly common poison, as it is sold, for the use of photographers, in

tablets, and this is extremely convenient for intending suicides.

Smell the breath for bitter almonds, and get to work at once with the stomach-tube, cold douche, alcohol *per rectum*, and ammonia to nostrils.

If possible, mix 15 grains of ferri sulph. with 20 drops of the liquor ferri perchlor. in a teacup, add 2 tablespoonfuls of magnes. carb. and water, and pour it down your tube to finish.

CORROSIVE IRRITANTS.

Potash—Pearlash—Soda—Spirits of Hartshorn.

Caustic potash is an uncommon poison, but its carbonate (pearlash), which is largely used for washing purposes, is less so. These and carbonate of sodium, together with ammonia taken in the form of liq. ammon. (spirits of hartshorn) or a liniment containing such, constitute the corrosive alkalies. The stomach-tube or emetics are contra-indicated. Half a teacupful of vinegar, lemon or orange juice *ad lib.*, should be given and followed by a few ounces of olive oil in a pint of water.

IRRITANTS.

Tartar Emetic—Sugar of Lead—Red or White Precipitate—Blue-stone.

Antimony in the form of tartar emetic or butter of antimony; lead sold as acetate of lead or sugar of lead; mercury, as red or white precipitate, vermilion and cinnabar; copper sold under the name of blue-stone blue vitriol, roman vitriol, or verdigris.

Scheele's Green.

Arsenic as Scheele's green and rat poison, strychnine as rat poison, phosphorus as match-heads or rat poison, and poisonous fungi, bad fish, etc., are classed under irritants. The stomach-tube and emetics, followed by olive oil and water, is the treatment, except in phosphorus-poisoning, when no oil should be given; but oil of turpentine (40-minim doses) is recommended for this drug, also sulphate of copper in 4 or 5 grain doses.

Rat Poison.

It will be seen from the above that when you are informed 'rat poison has been taken,' you may have strychnine, arsenic, and phosphorus to deal with, either separately or combined. They are all irritants, and are, therefore, properly treated with the stomach-tube or emetics and oil.

NARCOTICS.

Laudanum—Godfrey's Cordial—Dalby's Carminative—Chlorodyne—Paregoric.

Remember that in opium-poisoning the pupils are sometimes dilated. In natural sleep they are turned upwards, which is not so in opium-poisoning. During the enforced activity atropine ($\frac{1}{4}$ grain) should be injected, and ammonia to the nostrils is of valuable assistance. On the point of contracted pupils, the writer feels called upon to state that in the numerous cases of this narcosis he has seen in the opium dens of China contracted pupils were invariably present, and ventures to suggest that an admixture of alcohol may be the explanation of a divergence from the rule.

FIRST AID IN POISONING CASES.

The following table gives an epitome of the first aid in poisoning cases :

Alphabetical List of Common Poisons and their Treatment.

Acids.—Calcined magnesia ; alkalies ; oil.

Alcohol.—Wash stomach ; emetics ; cold affusion.

Aconite.—Wash stomach ; emetics ; tinct. digitalis, 20 minims ; inject strychnine, $\frac{1}{60}$ grain ; recumbent position ; artificial respiration.

Alkalies.—Vinegar ; lemon-juice ; oil.

Antimony.—If not vomiting, wash stomach ; emetics ; tannic acid ; strong tea.

Arsenic.—Wash stomach ; emetics ; magnesia ; charcoal ; hydrated sesquioxide of iron.

Atropia.—Wash stomach ; emetics ; magnesia ; lime-water.

Bismuth.—Wash stomach ; emetics.

Camphor.—Wash stomach ; inject strychnine ; hot coffee ; artificial respiration ; ammonia to nostrils, etc., according to symptoms. See also page 26.

Carbolic Acid.—Magnesium sulphate ; lime-water ; olive oil.

Carbonic Acid and other Irrespirable Gases.—Fresh air ; cold affusion ; recumbent position ; artificial respiration ; stimulants ; oxygen.

Chloral.—Wash stomach ; emetics ; inject strychnine ; enforced activity, as in opium-poisoning.

Chlorodyne.—Wash stomach ; emetics ; ammonia ; magnesia ; hot coffee ; permanganate of potash, 10 grains ; cold douche ; enforced activity.

Chloroform.—Wash stomach; cold affusion; inhale nitrite of amyl; artificial respiration.

Chloroform Inhalation.—Fresh air; cold affusion; inject strychnine; brandy; prolonged artificial respiration; bleeding from jugular vein (*ultima ratio*).

Cocaine.—Wash stomach; stimulants; inject strychnine; amyl nitrite.

Copper.—Wash stomach, if not vomiting; white of egg in milk; magnesia; ferro-cyanide of potassium, 1 drachm.

Creosote.—Magnesium sulphate; lime-water; olive oil.

Croton Oil, etc.—Wash stomach; olive oil; white of eggs; stimulants in milk.

Cyanides.—Wash stomach; emetics; cold douching; artificial respiration; stimulants; 20 grains of sulphate of iron and 20 minims of the tinct. ferri perchlo., to which a tablespoonful of magnesia carbonate should be added.

Digitalis.—Wash stomach; emetics; tannic acid; small dose of aconite; recumbent position.

Fungi.—Wash stomach; emetics; purgatives; stimulants.

Hydrocyanic Acid.—Wash stomach; emetics; cold douching; artificial respiration; stimulants; 20 grains of sulphate of iron and 20 minims of the tinct. ferri perchlor., to which a tablespoonful of magnesia carbonate should be added.

Lead.—Wash stomach; sulphate of soda; magnesium carbonate, or, as an emetic, sulphate of zinc.

Mercury.—White of egg; milk in quantity, then wash stomach; emetics; flour.

Opium.—Wash stomach; emetics; ammonia; magnesia; hot coffee; permanganate of potash, 10 grains; cold douche; enforced activity.

Oxalic Acid.—Whiting; chalk; wall-plaster; magnesia; white of egg; oil.

Phosphorus.—Wash stomach ; emetics ; cupri sulphas ; oil of turpentine, 1 teaspoonful ; avoid other oils.

Silver.—Wash stomach ; emetics ; sodium chloride (common salt).

Strychnine.—Wash stomach ; emetics (apomorphia $\frac{1}{10}$ grain) ; pot. brom., 2 drachms ; tannic acid.

Zinc.—White of egg ; sodium potassium ; carbonates ; demulcents.

POISONOUS GASES.

Carbonic Oxide.

Carbon monoxide given off by burning charcoal, wood, coke, etc., produces an intoxication which is sometimes mistaken for drunkenness, and the author has seen two cases of this perfectly excusable error on the part of the police.*

(*a*) A man sitting over a coke fire in a close room came out into the street to participate in a row. He fell down, could not get up, and was taken to the station as drunk and incapable, where, to the astonishment of the officers, he became rapidly sober. The author was called, went to the house, and found the explanation of the case.

(*b*) A woman, the wife of a night watchman engaged in some street repairs, went to collect her husband's money from him. He was engaged in a neighbouring public-house, and she sat down in his box before a large coke fire, the fumes of which were blown in upon her ; she was shortly overcome, and a constable finding her there pulled her out. She had to be taken to the station on an ambulance, and it was then found she was poisoned by this gas, and not drunk, as was supposed.

* Dr. F. J. Smith thinks this was probably CO_2.

Water Gas (Hydrogen and Carbonic Oxide) is an extremely poisonous commodity, and is the fatal element in the present illuminating mixture. It is of light weight and rises, yet persons poisoned by it are generally found on the floor. The explanation is, that on getting out of bed or standing upright, the head is plunged in it, and the victim falls insensible, where in time death ensues.

Compressed Air.

At eight o'clock one morning the author was called to see a man who was charged with being drunk and disorderly, and he put forward the defence that he had entered the compressed air when drunk the previous night, and that one of the effects of this atmospheric condition was to retard the sobering period. Two of his mates, both sober, backed up his statement with convincing seriousness, and the author, knowing nothing whatever about it blundered into the trap. He has since been in medical charge of the Rotherhithe Tunnel works, and finds that this effect is only produced in persons who take supplies of strong drink in with them. It seems to be clear that compressed air in certain persons who are unused to it does produce an exhilaration, but this has little resemblance to alcoholism, and ceases with a return to the normal pressure. A common effect of a too rapid decompression on susceptible persons is to liberate gaseous bubbles (nitrogen) in the spinal cord. This produces severe 'girdle' and neuralgic pains, with subsequent paralysis, often permanent. The reason for mentioning this here is because the men so affected have frequently left their work and are well on the way to their homes before they are seized. The history of the case

would make the diagnosis easy, and the treatment where practicable is re-compression. There can be no doubt that the pains are greatly relieved thereby, but the decompression should be extremely slow. Liquid extract of ergot, 20-drop doses, morphia injections, and massage are also indicated.

HINTS ON THE DETECTION OF BLOOD-STAINS.

Blood.

ON a knife that has been wiped or been in the rain all night blood can often be found in the thumb-nail slot. The microscope is of little assistance where the blood is *old*, except for the discovery of hæmin crystals. Look for blood on clothing by artificial light, and remember that stains which seem too dark in colour for blood may still be such, of the venous type. Turn out the sleeves of a coat ; it may have been put on over a shirt stained with blood and the latter changed. Examine the braces of clothing sent you ; if they have been recently altered in length, you have got the wrong trousers.

Because you are unable to find blood on a knife, you must not assume that the weapon in question was not the one used. If the surface is at all greasy, it is extremely likely you will not find it. In a case in which a man stabbed his daughter—a robust young woman—through the heart and twice in the lungs, he was seized in the act by passers-by, who handed the knife to a constable, and the author examined it within an hour. No blood was found upon it, but it had been recently sharpened and was greasy. The defence at the Old Bailey endeavoured to make capital out of this fact, and also out of another admission by the author—namely, that she had run across the road after her injuries had been sustained.

There was no difficulty in showing that people stabbed to the heart may cover a surprising distance ; and the man was hanged.

The writer was cross-examined recently as to blood-stains on a knife, to this effect : 'Would the fact that the prisoner had been using the knife to cut an underdone steak account for the stains answering to the tests for blood?' Being helplessly ignorant on the point, he answered, 'It probably would.' Shortly afterwards he took a table-knife with which he had been thus employed and subjected it to the usual tests. The guaiacum test gave a perfect Prussian blue. Hæmin crystals were found and the microscope showed rolls of corpuscles more or less intact.

To give evidence on the finding of blood you should say : 'I found a red stain which answered to the tests for blood.' You would be able to say this :—(*a*) if you had seen the corpuscles under the microscope. For this purpose a power of one-sixth is all that is required. Do not put a drop of blood on a slide and expect to see corpuscles ; you will see nothing but a confused red mass ; but if you place a small quantity on a slide with a cover-glass, and run in a little distilled water, it is then comparatively easy. This test should be supplemented by :—(*b*) the hæmin test. A power of one-sixth is sufficient for this test also. If you are unable to find the typical dark brown rhombic crystals, it is probably because you have been too sparing with the glacial acetic acid, or have omitted to add a little common salt in the case of an old blood-stain; or :—(*c*) the guaiacum test. If it is a knife-blade you have to examine, wash off a little of the stain with a piece of cotton-wool dipped in distilled water ; to this add a drop of tinct. guaiaci and then a drop of peroxide of hydrogen solution, when the Prussian blue will be seen. The best test is, of course, the

spectroscopic appearance of one dark band between the yellow and green rays and another (rather broader) in the middle of the green ray. This should be confirmed by the reduction test—*i.e.*, to the blood solution add a few drops of a sodium sulphide solution, and instead of two dark bands one only will be seen, dark in the middle and shading off at each edge. This is in that portion of the green ray situated between the two dark bands previously observed.

HINTS ON THE DETECTION OF SPERMATOZOA.

Spermatozoa.

THESE stains are very difficult to locate on dirty linen, but by holding the garment close to the fire the darker colour produced in seminal secretion is often a guide. Do not forget that the penis may have been wiped on a handkerchief. To find spermatozoa under the microscope one-sixth power is sufficient. With this lens the head is about half the size of a blood-corpuscle and the filament about ten times as long. If the stains are recent enough for you to see their waving motion, that would, of course, be typical.

Vaginal Secretion.

To detect vaginal secretion a power of one-twelfth is required ; but the police-surgeon generally leaves this investigation to the expert.

AVERAGE WEIGHT AND SIZE OF NORMAL ORGANS IN ADULTS.*

Brain.—Male, 49 ounces; female, 44 ounces; or $\frac{1}{40}$ body-weight.

Lungs.—Right—male, 24 ounces; female, 17 ounces; left—male, 21 ounces; female, 15 ounces; $\frac{1}{37}$ body-weight in males, $\frac{1}{43}$ body-weight in females.

Heart.—Size of the closed fist of the individual; male, 10 to 12 ounces; female, 8 to 10 ounces. Tricuspid orifice admits three fingers abreast and has a circumference of $3\frac{5}{8}$ to 4 inches. Aortic orifice has a circumference of $2\frac{3}{8}$ inches. Pulmonary orifice has a circumference of $2\frac{7}{8}$ inches. Mitral orifice admits the tips of three fingers. Circumference, $3\frac{1}{2}$ to $3\frac{3}{4}$ inches.

Liver.—Male, 60 ounces; female, 50 ounces.

Kidney.—Male, 4 to 6 ounces; female, 4 to $5\frac{1}{2}$ ounces.

Spleen.—Average weight, 7 ounces.

* From 'Post-Mortem Examinations,' by Jackson Clarke.

STANDARD WEIGHTS FOR UNDER ONE YEAR.

	lb. oz.		lb. oz.		lb. oz.
At birth ...	6 8	4 months old	10 8	8 months old	14 4
1 month old	7 4	5 ,, ,,	11 8	9 ,, ,,	15 8
2 months old	8 4	6 ,, ,,	12 4	10 ,, ,,	16 8
3 ,, ,,	9 6	7 ,, ,,	13 4	11 ,, ,,	17 8

STANDARD WEIGHTS AND HEIGHTS FOR ONE YEAR AND OVER.

Age in Years.	Males.				Females.			
	Weight.		Height.		Weight.		Height.	
	lb.	oz.	inches.		lb.	oz.	inches.	
1 year old ...	19	13	27	$5\frac{1}{2}$	18	13	27	0
2 years old ...	24	3	31	0	24	3	30	$7\frac{3}{4}$
3 ,, ,, ...	27	8	34	$2\frac{1}{4}$	27	3	33	$6\frac{5}{8}$
4 ,, ,, ...	30	13	36	$6\frac{5}{8}$	30	8	35	$9\frac{7}{8}$
5 ,, ,, ...	34	14	38	$8\frac{3}{4}$	33	9	38	$5\frac{1}{2}$
6 ,, ,, ...	39	1	41	$2\frac{1}{4}$	36	11	40	$7\frac{3}{4}$
7 ,, ,, ...	43	5	43	$4\frac{3}{8}$	39	1	42	$9\frac{7}{8}$
8 ,, ,, ...	47	8	45	$7\frac{3}{4}$	41	13	45	$5\frac{1}{2}$
9 ,, ,, ...	51	11	48	$1\frac{1}{8}$	46	3	47	$4\frac{3}{8}$
10 ,, ,, ...	55	6	50	$4\frac{3}{8}$	50	13	49	$2\frac{1}{4}$
11 ,, ,, ...	59	6	52	$5\frac{1}{2}$	56	1	50	$6\frac{5}{8}$
12 ,, ,, ...	63	13	54	$5\frac{1}{2}$	63	13	52	$7\frac{3}{4}$
13 ,, ,, ...	72	13	56	$4\frac{3}{8}$	71	8	55	$8\frac{3}{4}$
14 ,, ,, ...	81	9	58	$6\frac{5}{8}$	79	13	58	$1\frac{1}{8}$
15 ,, ,, ...	90	9	61	0	88	0	58	$9\frac{7}{8}$
16 ,, ,, ...	99	13	63	0	95	11	59	$8\frac{3}{4}$

N.B.—The above scales are taken from Woodman and Tidy's 'Forensic Medicine and Toxicology,' 1877.

TABLE OF DEVELOPMENTAL CHANGES IN THE FŒTUS.*

Period.	Average Length.	Average Weight.	Nails.	Other Features.
	inches.	pounds.		
At end of sixth month ...	8 to 12	1 to 2	Forming.	Skin thin and covered with lanugo; eyelids adherent; pupillary membrane present; no subcutaneous fat; ossification in manubrium and os calcis.
At end of seventh month	12 to 15	2 to 4	Not reached ends of fingers.	Hair forming on head; subcutaneous fat forming; eyelids open; ossification in first piece of body of sternum and in astragalus.
At end of eighth month	15 to 17	4 to 5	Reached ends of fingers.	Pupillary membrane disappeared; lanugo disappearing; testes in inguinal canals; ossification in second piece of sternum.
At end of ninth month ...	18 to 20	5 to 8	Project beyond fingers.	Subcutaneous fat abundant; ossification in lower epiphysis of femur; testes in scrotum.

* From 'Post-Mortem Examinations,' by Jackson Clarke.

CERTAIN CONDITIONS AS THEY PRESENT THEMSELVES IN THE POLICE-STATION.

Opium.	Alcohol.	Concussion.	Epilepsy.	Malingering.	Hysteria.
1. No head injury of severity.	1. No head injury of severity.	1. Severe head injury.	1. No head injury of severity.	1. No injury.	1. No injury.
2. Stupor, from which the patient can be partially roused, but quickly lapses.	2. Stupor, from which the patient can be roused, and is easily kept so.	2. As in opium.	2. Stupor, profound.	2. Stupor, studied.	2. Noisy.
3. Face pale; pupils contracted to pin-points.	3. Face flushed, pupils generally dilated and equal.	3. Face pale; pupils dilated or unequal.	3. Face blue or pale; pupils dilated; no reaction.	3. Face flushed; pupils normal.	3. Face flushed; pupils normal.
4. Odour of opium.	4. Odour of alcohol.	4. No odour in breath.	4. No odour in breath.	4. No odour in breath.	4. No odour in breath.
5. Pulse small and rapid.	5. Pulse full and rapid.	5. Pulse slow.	5. Pulse small and rapid.	5. Pulse full and rapid.	5. Pulse full and rapid.

NOTES OF THE POST-MORTEM EXAMINATION.

Name..... *Sex*.....

Age..... *Date*.....

At.....

External temperature.....

Body temperature.....

Chief Points in the History of the Case.

External examination : Length and weight of the body ... How nourished ... ... Peculiarities of hair, teeth, scars, etc. ... ... Rigor mortis, hypostasis, decomposition ... ... Marks of external violence ...	
Internal examination : Height of diaphragm ... ... Pericardium ... ... Heart (size, weight) ... ... Right auricle, tricuspid orifice, and valve ... ... Right ventricle, pulmonary orifice, and valve ... ... Left auricle, mitral orifice, and valve ... ... Left ventricle, aortic orifice, and valve ... ... Heart muscle ... ... Aorta, coronary arteries, and large bloodvessels ... ... Thyroid and thymus ... ... Mouth, tongue, œsophagus ...	

NOTES OF THE POST-MORTEM EXAMINATION (*continued*).*

Internal examination (*continued*) : Larynx, trachea, bronchi ... ... Pleuræ, right and left ... ... Lungs, right and left ... ... Peritoneum, etc. ... ... Stomach and contents ... ... Intestine and mesenteric glands ... Liver (surface, section, weight), gall-bladder ... ... Spleen ... ... Kidneys and ureters ... ... Bladder ... ... Urine ... ... Suprarenal bodies ... ... Generative organs	
Meninges and bloodvessels ... Brain (hemispheres, ventricles, basal ganglia) ... ... Crura, pons, cerebellum, and medulla ... ... Spinal cord	
Conclusions and cause of death ...	

* From ' Post-Mortem Examinations,' by Jackson Clarke.

INDEX

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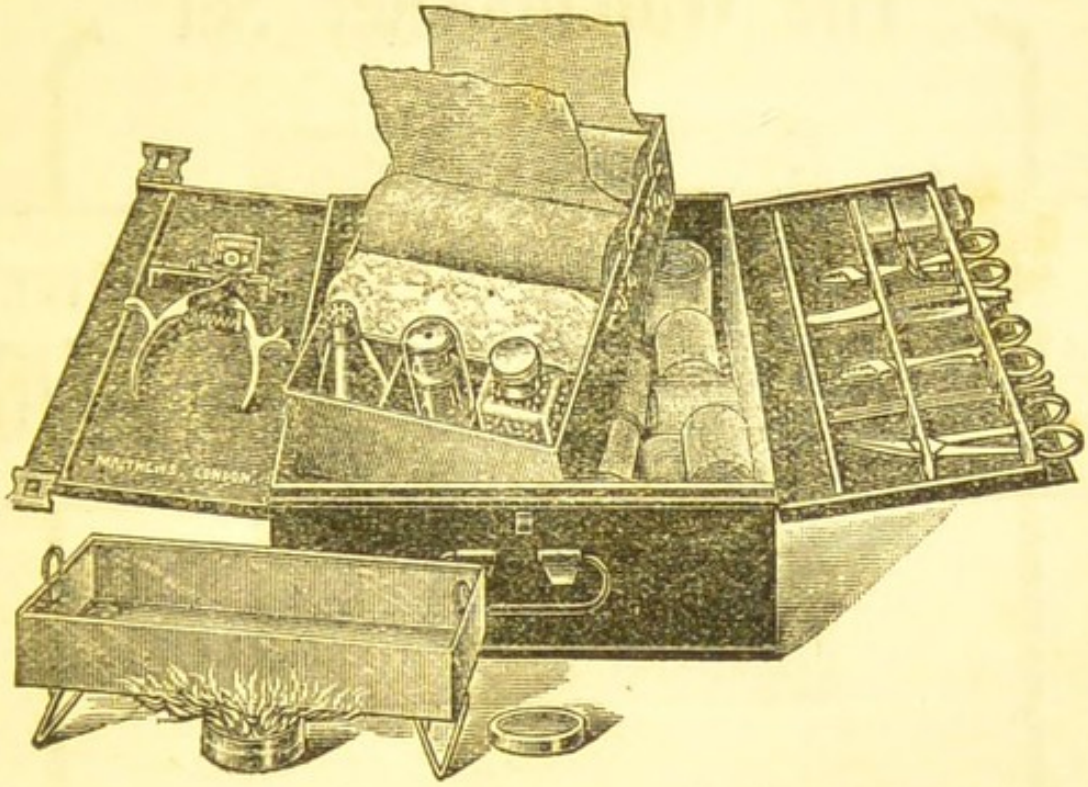

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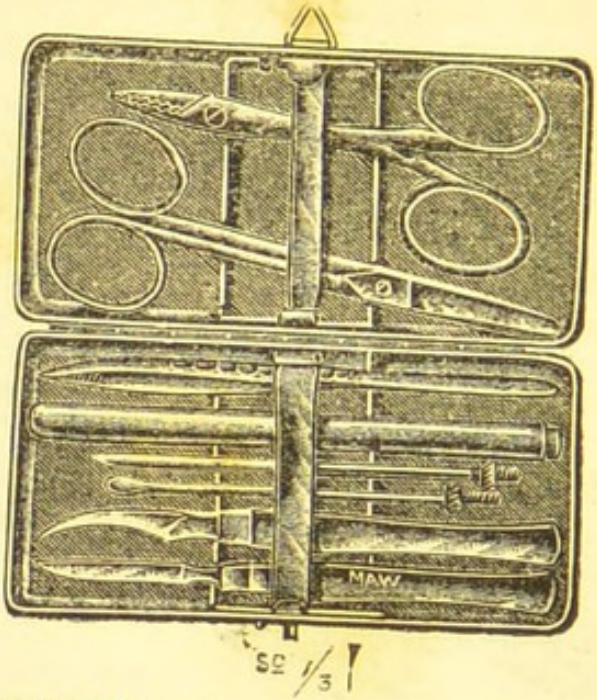

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