is very much like telling a physician to make a diagnosis of lung-disease and at the same time limiting him to such information as he can gather from the pulse and the tongue, and strictly precluding him from making any use of such instruments as the stethoscope or the thermometer, upon the plea that such things are not mentioned by Hippocrates or Celsius.

I am quite aware that English lawyers have commonly expressed the opinion, and expressed it strongly, that, to leave the question of irresponsibility to be decided by the court in this general manner without some strict definition to guide it, would be attended with grave inconvenience; but this feeling, perhaps, in some measure, springs from legal tradition, and I venture to very much question whether any inconvenience could be so great as that which attends the existing practice, under which it constantly happens that the jury cut the knot by bringing in a verdict of insanity in opposition to the judge's charge, and under which the court finds itself not infrequently compelled first to pass sentence upon a manifest lunatic, and then to invoke the aid of the advisers of the crown in order to prevent the execution of the sentence.

The German penal code enacts that "an act is not punishable when the person, at the time of doing it, was in a state of unconsciousness or of disease of mind by which a free determination of will was excluded"; and the French code runs thus: "There is neither crime nor misdemeanour in an action otherwise culpable, committed at the moment when the accused was in a state of insanity." I prefer the German code to the French, inasmuch as it qualifies the degree of insanity by saying that it must be such that "a free determination of the will is excluded". Professor Casper of Berlin summed up his comments upon this point in these words, as given by his translator, "criminal responsibility (imputability) is, therefore, the psychological possibility of the efficaciousness of the penal code". It will be observed that Professor Casper does not say that the mental disease must be such that all and every kind of external influence shall be incapable of moulding, in any degree, the conduct of the individual; but that it must be such that the *penal code* is no longer efficacious. This is a very important distinction; for it is sometimes urged that, because the inmates of lunatic asylums are capable of being influenced as to their conduct and brought to exercise a considerable degree of self-control by a discipline which includes, as one of its elements, a modified system of rewards and punishments, therefore, there is no reason why the ordinary operation of the criminal law should ever be suspended in the case of lunatics. An argument of this kind shows an evident lack of the power of appreciating the proportion and relative value of things.

The discipline of the insane in an asylum, so far as the question of rewards and punishments is concerned, is very much like the discipline of the nursery. The young child is quite capable of being influenced by a discipline suited to its years, but it by no means follows that the discipline would be improved by invoking the aid of the gallows or of penal servitude; and it is thus in an asylum.

If, indeed, the punishment of insane persons were efficacious to restrain their insane acts, it might, with some show of justice, be urged that such punishment should properly be applied; but, in former times, there has been sufficient trial of that system by stripes and chains and repression on all descriptions of lunatics and in every conceivable state of circumstances, and that system has as uniformly and completely failed as a more enlightened and humane system has succeeded. It is not by any metaphysical reasoning that the conviction of the uselessness of applying the penal code to lunatics is arrived at, but it is by the simple process of the observation of actual facts. To anyone living amongst the insane, the proofs are so numerous and of such everyday occurrence that the question appears to require no argument.

It would be a mistake to suppose that the victim of insanity commonly forgets the commission of his insane acts. Excepting in those cases where very violent delirium on the one hand, or where absolute dementia on the other, is present, there is ordinarily very fair recollection. A man, now under my care, who attempted to kill his wife in the course of last year, and who was then, and is now, in a state of acute melancholia, writes thus to his wife a few days ago:

"My dear,—I do hope that you will take me home and let the gentlemen of the town tell me the laws of this beautiful world, and let me be one of God's children, and not let me be an outcast. Lord be merciful to me. What I did suffer in my head, no man can conceive, and the cause of it made me do what I did to you and myself. No man can tell the tears I shed for my sins," etc.

And, yet, the writer of this letter is so completely smitten with melancholia that common sensation is well nigh obliterated. He denudes his face by tearing out his beard hair by hair, and the practice affords him positive pleasure, instead of pain; and for many months he required the most vigilant watching to avert suicide. I cannot for a moment conceive of anyone who had watched the conduct of such

a man imagining that the fear of the penalty of death would be in any degree efficacious in controlling his conduct.

Dr. Guy, Professor of Hygiene in King's College, London, in a paper read by him last year at the Social Science Congress, examined very carefully into the statistics of executions for murder in England and Wales during the last seventy years, especially with reference to the plea of insanity. This paper is published in the *Journal of the Statistical Society* in December 1875, and the conclusion at which Dr. Guy arrives is that, as far as such a matter is capable of being measured by figures, there is an entire absence of proof that the admission of the plea of insanity during those seventy years has had any influence whatever in rendering life less secure.

The proposition, then, that underlies the whole matter of the plea of insanity asserts the existence, in certain cases, of such a degree of mental disease as excludes the free determination of the will, and renders the application of the penal code no longer efficacious. And the proper function of the medical witness would appear to me to be to make a critical examination of the individual case, with the view of ascertaining whether such a degree of mental disease does or does not exist, and then to place the result of his examination before the court in the plainest language that will suffice to convey his meaning.

It is, of course, worse than useless in a court of law to enter upon definitions of insanity in the abstract. Etymologically, the term implies the negation of something, and not a positive entity. It has been said that nobody is quite sane; and, indeed, the old Latin poet and satirist wrote: *Orandum est ut sit mens sana in corpore sano.* He did not say that a sound mind ever existed, but he said it was a thing to be prayed for.

[To be continued.]

A CLINICAL LECTURE ON CYSTS.

Delivered at St. Thomas's Hospital, London.

By FRANCIS MASON, F.R.C.S.,

Surgeon and Lecturer on Anatomy at the Hospital, etc.

GENTLEMEN,—By a curious coincidence, we have now under observation a group of cases which illustrate very perfectly the chief types of cysts that are met with in surgical practice. It will be beside our purpose to enter minutely into the development of cystic growths; but it may be convenient, in order that we may thoroughly understand their condition, to divide them into two classes, and speak first of those that result from an accumulation of the contents in a pre-existing or normal cyst, and secondly of those that commence afresh as new or abnormal formations.

In the first class, there are the so-called *retention-cysts*; and of these we have one typical example in the case of a woman aged about 40, who had between twenty and thirty *sebaceous cysts* on the scalp, which we removed between us. These cysts arise from the occlusion of the hair-follicles, and, as was the case in this woman, are very frequently hereditary. I know a lady who is a sort of martyr to such excrescences, having always one or two on hand ready for operation. Several of her family are similarly predisposed; thus her mother, two sisters and a brother, and her son, are alike subject to such cystic tumours. Their removal is very simple. The best plan, I think, is to transfix the cyst with a sharp knife, and to turn it out with a scoop, which should be carefully insinuated at the angle of the incision, and so used as to go gently round the circumference of the cyst, the operator bearing in mind the size and shape of the tumour. No force should be employed; for, simple as such operations appear, they are not unfrequently followed by a good deal of inflammatory action, and occasionally by erysipelas. So much stress do I put on the importance of not using roughness, that I recommend, in those cases in which adhesions exist, that a few light touches of the knife should be used, keeping quite close to the cyst, rather than the growth should be dragged away with violence. Immediately the cyst is enucleated, a pad of dry lint should be applied; and, as a rule, the wound heals by primary union.

The diagnosis of these cysts, when they occur on the trunk or extremities, is not usually difficult. Sometimes, however, a small lump of fat, if situated on the face, especially the forehead, will closely simulate a cystic tumour; but the fatty growth is usually flatter and more doughy to the touch, whereas the cystic tumour is more dome-shaped, and there is a sensation of fluctuation communicated to the finger. In cystic tumours, moreover, a little black spot may often be observed,

which is the orifice of the obstructed duct. On squeezing the tumour, a little of the contents may be made to exude, as in the case of a girl whom we saw the other day amongst the out-patients. In this instance, the cyst was situated on the back between the scapulae. It is no unfrequent occurrence to find that patients who have such cysts on an exposed part, such as the face, and who are indisposed to undergo the slight ordeal of an operation, can keep the growth within the limit of becoming decency by gently expressing the contents from time to time; but the cyst is never cured unless it be removed by the surgeon, or be obliterated by inflammatory action.

The second kind of retention-cyst, or *mucous* cyst, is exemplified in a man who is now under notice, and who had a cyst about the size of a filbert, which had been growing for eight months and was situated on the left side of the lower lip. Whether it was caused by the irritation of decayed teeth I know not; but it projected, you will remember, through a space caused by the absence of the lateral incisor and canine teeth in the upper jaw. Such cysts may be excised; but in this case I made a free incision into it, evacuating a slightly viscid fluid; and I touched the lining surface with caustic. The patient is now nearly well.

Speaking of this case reminds me of several others that we have treated, and which may be classed third amongst the retention-cysts. I allude to cases of *ranula*. If once carefully observed, a ranula will never be forgotten. Situated immediately under the anterior part of the tongue, it will be recognised as a tense, semi-translucent, bluish swelling, fluctuating, and having in some cases well-marked veins ramifying over its surface. It is generally of the size of a filbert or a walnut, but may attain an enormous size; thus M. Boinet relates a case in which the tumour filled the mouth, and a large portion projected from that cavity. The four incisors, two canine, and first molars of the lower jaw had been displaced by the pressure; and the patient, besides being almost starved to death, was more than once threatened with suffocation. In this case, the cyst was extirpated, and the patient recovered.

There is some difference of opinion as to the manner in which a ranula has its origin, and I will not occupy your time further than to say that some pathologists believe that it is simply an obstruction of the ducts of the mucous glands, precisely resembling the mucous cysts just described. Others think it is a dilatation of the sublingual or submaxillary duct; or, again, that, the duct having burst, the contents escape into the surrounding textures, and are there confined in a new cyst formed of condensed connective tissue. Other observers attribute it to an enlargement of the small bursæ that exist between the muscles of the tongue.

The treatment of these cysts consists of making a free incision into them, when the characteristic gelatinous mass exudes. To effect a radical cure, it is necessary to remove a piece of the cyst-wall, so as to prevent a reaccumulation of the contents; and, in using the scissors for this purpose, care should be taken to attack that part of the cyst which is least vascular. It is easy to open a vein of some size, and I have witnessed on more than one occasion considerable hæmorrhage by oozing after this apparently very simple proceeding.

Included in this class of retention-cysts is that in which there is an *obstruction of the ducts of the mammary glands*. We have had three such cases lately, one of some size, from which a good half-pint of creamy material was evacuated by incision. In this list, too, we may include examples of *encysted hydrocele*. It will suffice to refer to one only of the three cases that have been recently under our observation. The man was twenty-eight years of age, and had had a swelling of the size of a currant at the top of his testicle ever since he could remember. About twelve months before his admission, he received some injury to the part, and from that time the swelling gradually increased to its present size, which is about the size of a walnut. This case was interesting in a diagnostic point of view. There was no impulse on coughing; and the cord could be distinctly felt above the tumour, showing that the case was not one of hernia. The testicle could be distinctly felt below and anteriorly, indicating that it was not an ordinary hydrocele of the tunica vaginalis. But there was a distinct circumscribed swelling, apparently connected with the epididymis; and we formed our diagnosis from the position of the swelling, and anticipated the character of the fluid to be evacuated. The fluid had, as we expected, a slightly turbid appearance, looking as if a few drops of milk had been mixed with water. There was scarcely a trace of albumen in it; and, when examined with the microscope, we found myriads of spermatozoa. The treatment adopted in this case was to make a free incision and introduce lint, so as to promote granulations.

The second class of cysts is that known as the *exudation-cysts*, in which an excessive accumulation takes place in a pre-existing cyst which is unprovided with an excretory duct. The different diseases of

normal bursæ in the body may be taken as a good type of this form of exudation-cyst, and we are fortunate in being enabled to watch four cases which illustrate their nature very well. They are all affections of the bursa patellæ. In the first—a girl aged 18, a housemaid—there is a large painless swelling situated over the right patella. She has been kneeling a good deal of late, and there is considerable effusion in the bursa. This is improving by rest and the application of iodine paint. The second case is one in which the bursa is in a state of suppuration. The treatment here was to make a free incision, not in the middle line, but at the side of the swelling, so as to obviate the pocketing of matter which often occurs in such cases. The diagnosis between a suppurating bursa patellæ and an inflamed knee-joint should be particularly noted; but the two diseases may be distinguished by remembering that, in the case of inflamed bursa, the skin is acutely painful; the patella itself is masked; and that the little dip or depression on each side of the knee is more or less retained. In suppuration of the joint, on the other hand, the patella is easily recognised by the touch, and perhaps floats. The depression on each side above referred to is lost; but the chief point is the excessive constitutional disturbance that coexists. The third case is one of chronic enlargement of the bursa patellæ, which I removed by operation. So far as the tumour itself is concerned, there is nothing remarkable save the extreme thickness of the walls of the cyst; but this is by no means unusual in such cases. As regards the operation, however, you may have noted that I took care to have the limb placed on a splint before the operation, and operated with the splint applied. This may appear a small matter; but I am persuaded it is a wise precaution, as the knee-joint is kept quiet during and immediately after the operation.

Other examples of these exudation-cysts are found in cases of hydrocele, or in the so-called ganglions which appear in connection with the tendons around the wrist-joints; but, as you are familiar with their nature, I need not now refer to them.

The third variety of cyst is the *extravasation-cyst*, and you had an opportunity of seeing an example of this not long ago. It was one of hæmatocele. You will remember the man who was recently under my care with a hydrocele, and I tapped him twice. He came again in about three months with this story, that the fluid in the hydrocele had, as before, gradually accumulated; but that, the day prior to his application, as he was wheeling his barrow—for he was a costermonger—the shaft struck him on the scrotum. When we saw him, there was a tense swelling of the part, which had a bruised mottled appearance. As the tension was increasing, I made a free incision and turned out the clot, and secured the bleeding vessel. The cyst healed by granulation, and a radical cure was effected, not only of the hæmatocele, but of the hydrocele also.

And now I have to say a few words as to those cysts which have, so to speak, an independent growth or origin. You will have understood that in the cases to which I have referred there has been a pre-existing cyst; but in those of which I shall now speak there is an entirely new formation, which surrounds the growth, whether it be of a solid or cystic character. The man in Albert Ward, who had a fatty tumour on the arm, was a good example of this newly formed cyst, for the growth was included in a capsule, as such growths usually are; and this capsule was formed by condensed connective tissue. The remarks I made as to using no roughness in removing sebaceous tumours of the scalp apply with, I think, equal if not greater force in removing fatty tumours. It is usual to make one single incision, and then to tear the growth away. Here, again, I warn you as to the impropriety of rough handling, which is almost certain to be followed by considerable inflammatory action. It is better here, as in the case of sebaceous tumours of the scalp, to apply the knife lightly to any strong adhesions, rather than run the risk of bruising the parts by wrenching the growth away. Then a new cyst may form from the mere irritation of the part, such cyst or bursa being an entirely new growth. It may constitute a capsule around a foreign body, as often happens in cases of gunshot injury, in which a bullet will lie innocently imbedded in the subcutaneous tissue. I know a gentleman who can point to twelve or more shot so placed under the skin of the face. But the character of the foreign body is a matter of indifference; it may be a piece of wood, a pebble, or a thorn. Some few months ago, we had under observation a collection of extravasated blood as large as a foetal head, situated on the buttock. In dealing with such a case, it is well to try for a time to effect absorption by the application of evaporating lotions; or, if further treatment be required, to empty the cyst by a series of tapplings, and, if necessary, to lay it open, so as to allow it to granulate from the bottom. We adopted the last method of practice in this case, and the patient made a good recovery.

The subject of ovarian cysts is rather too long for me to enter upon at the present time, and I will speak of this on a future occasion;

but, as bearing on this point, I may, in conclusion, refer to the so-called *congenital cysts*, which contain hair, teeth, bone, etc. Our museum is rich in such examples; but I here show you a very pretty, though small specimen of the kind, which I removed from a child's brow nearly twenty years ago. The cyst is about the size of a pea, and contains, curled up and lining the inner surface, a little tuft of hair. It is impossible to state positively the precise nature of the contents of these cysts before removal; and some of you may remember a very interesting case that was under my care some two years ago. The patient, a middle-aged man, had a swelling in the right femoral region, which was supposed to be a chronic abscess; yet, on making an incision, it turned out to be a hydatid cyst.

FŒTAL THERAPEUTICS.*

By ALFRED H. McCLINTOCK, F.R.C.S.I., M.D. (Univ. Glasg.), LL.D. (Univ. Edin.), M.A.O. (Univ. Dub., *honoris causâ*);

Ex-Master of the Dublin Lying-in Hospital; Honorary Fellow of the American Gynæcological Society, and of the Obstetrical Societies of London and Edinburgh; etc.

UNDER this short and comprehensive title, I wish to make some remarks on the possibility of medicines given to the mother acting upon the foetus *in utero*. I have nothing original to offer but a few clinical illustrations, which I would not have deemed worthy of your notice but that I am desirous of bringing this interesting and important question under discussion, and of obtaining for it that consideration which it has had elsewhere, and which it well deserves at the hands of practical accoucheurs.

The time allowed for communications here is but limited; I must content myself, therefore, with very brief allusions to what has been already done in this field of research, and in other respects condense my observations as much as possible.

Our knowledge of the minute relations subsisting between the parent and the foetus, and of the nature of the utero-placental circulation, is so imperfect that we can derive from it little or no assistance in this inquiry. We know certainly that the foetus must derive its nutriment from the blood of the mother by some sort of osmosis; but physiology throws no further light on the matter, whilst the difficulties attending the experimental investigation of the subject are so many, so great, and so liable to fallacy, that I am satisfied we must look mainly to clinical experiences for information concerning it.

There are some sources of confusion and fallacy in this investigation which it may be well to point out, as they have not been sufficiently attended to by writers. For example, the influence on the sucking child of medicine given to its nurse has no bearing whatever upon the question of *fœtal* therapeutics, and cannot, therefore, be of any assistance in furthering our present inquiry. The conditions of the child in the two cases are so essentially different, that no comparison or analogy can be made between them in regard to the special point before us.

Again, the influence which diseases affecting the mother before impregnation may have on the product of that impregnation, should not, in my judgment, be admitted as evidence, even of a collateral kind, towards the solution of the questions under consideration.

Lastly, there are several dietetic and medicinal agents, as well as hygienic conditions, which we must suppose to be capable of affecting in some degree the well-being of the foetus, but only *indirectly* so, and by their improving the health of the mother, and rendering her blood purer and richer. Although I lay this down, still we must admit that the distinction is a fine one, and that it may be very difficult, if not impossible, to discriminate between the effects of such agencies as those just named and of medicines supposed to act by being carried into the circulation of the foetus, and thus producing their specific effects on it.

It is quite unnecessary to adduce any evidence on the *negative* side of the question before us. The daily experience of each one of us will supply instances of the complete exemption of the foetus from any participation in the effects of agencies or influences—whether medicinal, pathological, mental, or physical—of which the mother may be the subject. Hence some men have gone so far as to suppose it is utterly impossible that any drug given to the mother can directly extend its influence to the child *in utero*.

Whilst fully admitting the extent and the weight of the evidence which can be brought forward in support of this negative view, there are, on the other hand, however, facts of a positive kind which no amount of negative evidence can overturn, and which do establish the

possibility of the thing. Its frequency or probability is quite another and distinct question, and one which can only be determined by a comparison of the number and weight of facts on each side.

This subject was ably discussed at the New York Obstetrical Society last January. The major part of the speakers, including Professor Fordyce Barker, expressed their disbelief in the transmission of drugs from the system of the mother to that of the foetus, except perhaps in very minute quantity, and after their prolonged administration. The primary question considered in the above discussion, I may remark, had reference to the influence of opiates on the foetus, and the conclusion at which Professor Barker arrived on this point is best given in his own words; viz.: "That there is no evidence which can be accepted in science that narcotic drugs administered to the mother ever produce their specific effects on the foetus *in utero*." Dr. Gaillard Thomas stood nearly alone in speaking on the affirmative side of the question, and he maintained that thirteen cases had been submitted to the meeting, from his own practice and that of others, where narcotics administered in large doses to pregnant women had been followed by injurious and characteristic effects on the foetus; and from them he concludes that, "if there be any value to be accorded to clinical evidences, these cases go to prove that large doses of narcotics (morphia and atropine) hypodermically administered to the pregnant woman may affect her child injuriously." Perhaps the most important point elicited by this lengthened discussion (which occupied the time of three meetings of the Society) was the greater risk of injury to the foetus from the subcutaneous employment of the medicine than from its administration by the mouth or the rectum.

Numerous experiments have been recorded by German physicians demonstrating the possibility of certain substances, especially iodine, chloroform, and salicylic acid, when administered to the mother, finding their way into the blood or secretions of the foetus *in utero*. Professor Gusserow of Strasburg seems to have examined with great care the subject of the interchanges between the foetus and the mother. His experiments, about eight in number, on the lower animals did not yield any positive results, which may probably be accounted for by the comparatively short time the parent was subjected to the action of the medicine. In fourteen instances, he gave patients pretty large doses of iodide of potassium for some days or weeks before delivery; and then he tested for iodine in the liquor amnii and the foetal urine, when these could be obtained. Specimens of the urine were got in only eleven of these foetuses, and five of the specimens contained iodine, whilst in six of them it was absent. The length of time the mother had been taking the medicine seemed to influence the result of the experiment. Benicke reports giving salicylic acid to twenty-five women during labour, and found it in the urine of the children immediately after birth. In the discussion of this subject at the Leipzig Obstetrical Society, Henning and Ahlfeld mentioned having seen cases where morphia given to the mother undoubtedly injured the foetus.

There is not time to make any further quotations; enough, however, have been adduced I think, to show that, under certain circumstances, drugs given to the mother undoubtedly find their way, though in small quantity, into the foetal circulation. No other conclusion can be drawn from the experiments that have been reported.

In the clinical facts which I shall presently bring forward, we judge by the effect only that the medicine reached the foetus. The inference that the medicine had entered the foetal organism is, no doubt, open to question. This I must admit, and it would have been very desirable and satisfactory to know for certain whether the drug had actually passed through the partition which separates the vascular systems of the mother and of the foetus, and had thus acted on the latter. But is it not of great importance for us, as practitioners, to recognise the fact that the foetus *in utero* is not beyond the reach of physic; that there are medicinal agents (no matter what their *modus operandi* may be) which can exert some therapeutic influence upon it by administration to the mother? This is just the point upon which I wish to lay stress, as it is one of high practical importance and much requires careful elucidation.

The influence which mercury administered to the mother has in counteracting congenital or hereditary syphilis is universally acknowledged; and Dr. Thornburn, in his admirable paper on "The Medicinal Treatment of the Unborn Child", even goes so far as to assert, and supports the assertion by facts, "that we can beneficially treat the unborn child independently, in a sense, of the mother". His second case has a special importance on this ground: that the mother herself never had any detectable symptom of syphilis. Her husband had the disease when he married, and was for a long time under treatment. Her first pregnancy terminated about the eighth month, the child being covered with pustules and dying in a few hours. Next she had three abor-

* Read in the Section of Obstetric Medicine at the Annual Meeting of the British Medical Association in Manchester, August 1877.