On you, therefore, it will devolve to support the reputation of your calling by a conscientious zeal in the honourable discharge of your great mission to the poor and suffering. Moreover, it will be your duty to add your mite of experience and of knowledge to that cairn of medical science which has been brought up to its present height by the aggregation of the individually minute contributions of your predecessors, and so maintaining the great traditions of Irish medicine to hand it down to your successors improved and perfected by your labours.

CELTIC MEDICINE, ITS HISTORY AND LESSONS.

In this connexion I may for a moment refer to the fact that Irish medical men can lay claim not only to the traditions they inherit from their more immediate predecessors, but also to a history deserving of larger consideration than is now commonly given to it. For, as I have elsewhere shown, the practitioners of the healing art in this country are, in truth, the legitimate heirs of the oldest professional culture of which there are in existence the records in the living language of any European nation. Let me therefore remind you that in distant ages when the lamp of medical knowledge was unkindled in most other countries its light shone with comparative brilliancy in this remote *Ultima Thule*, as may be easily proved by incontrovertible historical evidence. Thus, for instance, there are still extant and accessible in the libraries of the Royal Irish Academy and Trinity College in this city, as well as in other similar collections elsewhere, a vast body of ancient Gaelic MS. documents in many of which the distinguished history and high character of early Irish medicine are well illustrated. From these sources we find that from the oldest period of authentic history the classic literature of Greek and Roman medicine, as well as a still more ancient native leechcraft, were cultivated in our own country even in those far-off ages, whilst at the same epoch therapeutics, materia medica, and anatomy were studied, and surgery, gynaecology, and obstetrics were practised, in Ireland, where the hereditary followers of the healing art were then held in high honour. Nay, more, we have clear evidence that the marvels of modern hypnotism and the employment of anæsthetics on which we plume ourselves as the most beneficent discovery of the present age were, although in cruder forms, here anticipated by our remote predecessors.

Amongst the numerous collegiate centres of professional as well as of ecclesiastical learning with which this *Insula Sanctorum et Doctorum* was studded over between the sixth and sixteenth centuries, and the very ruins of many of which, such as Clonmacnois, Cashel, Meelick, Portumna, Lismore, and Monasterboice, still attest the culture and art as well as the piety of their founders, one at least is of special interest to us as of a distinctly medical origin—viz., *Tuaim Breacain*, near the present town of Belturbet. All the various faculties of these Celtic Catholic universities—for such was the character of many of them—were for long ages crowded with students from every part of Europe, who in some of them were subjected to a course extending over a period far more protracted than even that of the modern medical student. From these institutions also were sent forth men such as Alcuin, the founder of the University of Pisa, Johannes Scotus Erigena, who in the ninth century was regarded as the ablest writer of that age as well as the first professor of philosophy in Paris, and countless others, to diffuse the lights of learning and science as well as of faith to the ends of the earth. Nor did that long intellectual pre-eminence cease, in medicine at least, until after the destruction of the Irish monastic universities during the reigns of Henry VIII. and Elizabeth, and even down to the middle part of the seventeenth century we find the far-extending fame of Irish medicine referred to by authorities of such eminence as Van Helmont.

To the destruction of those Celtic universities may, moreover, be dated the origin of the disabilities in the matter of higher education that for three centuries have pressed, and still press heavily, on the majority of the Irish people and on none more forcibly than on those of them belonging, as so many here do, to the medical profession. The latter, during all these generations, have been thus unfairly handicapped in the race of existence by the impossibility of securing, in accordance with their conscientious convictions, that full measure of academic training within the halls of a university which is so conducive to success in the higher walks of professional life or public employment and which is accessible to their compeers of every other persuasion.

We may, however, rest well assured that in this, as in all other matters, justice, although long delayed, must, like that truth on which it is founded, eventually prevail. And therefore can we confidently anticipate that this last vestige of the dark shadows cast over our land by the successful intolerance of a bygone age may for ever be swept away in the near day-dawn of the twentieth century which we trust will usher in the final and equitable adjustment of the Irish Catholic University question. Whether in our day this long cherished hope be realised or not will, however, we are equally confident, in no wise affect your kindly relations and zealous coöperation in the mission of medicine with your brother practitioners of all other schools and denominations. Nor need we attempt to stimulate your esteem and respect for men amongst whose professional ancestors were included names such as those of Cusack, Carmichael, Graves, or Stokes, which at home and abroad are as imperishably engraved on the annals of our science as those of their Catholic compeers, Corrigan, O'Reilly, Lyons, or Hayden, or who—like the Anglican founder of Sir Patrick Dun's Hospital, or Bartholomew Moss to whom Ireland owes her great school of midwifery the Rotunda, or Dr. Richard Steevens by whom the hospital which bears his name was established—have left in our city enduring monuments of a medical benevolence as far above all sectarian considerations as that of the founders of the four Catholic hospitals which are so largely supported by Irish charity in Dublin.

In conclusion, I would only venture to express my trust that in the fulness of years you, gentlemen, may one and all leave behind you such imprints on the sands of time as those I have just named did. Thus will you not only honour yourselves and your calling, but also perchance reflect some of your well-won credit on your clinical *alma mater* and on those who were once your teachers in the Mater Misericordiæ Hospital.

REMARKS ON RENAL SURGERY.¹

By EDWARD DEANESLY, M.D., B.Sc. LOND.,
F.R.C.S. ENG.,

HONORARY ASSISTANT SURGEON TO THE WOLVERHAMPTON AND
STAFFORDSHIRE GENERAL HOSPITAL.

RENAL surgery, in spite of great improvements, still contains a number of unsettled problems with regard both to diagnosis and treatment. The following remarks attempt to discuss some of these problems from the standpoint of personal experience and reflection and are more particularly concerned with the commonest of surgical affections of the kidney—namely, calculus.

The first step of every operation on an internal organ is to verify or correct the diagnosis. In the case of the kidney even with the most improved methods of investigation the diagnosis seldom reaches more than a high degree of probability, and even in cases where the diagnosis is most certain the best treatment to adopt can only be determined after the precise conditions present have been ascertained by dissection. In other words, every operation on the kidney should be so designed as to permit a complete preliminary exploration. The first problem, therefore, which confronts us is this: What is the kind and amount of clinical evidence which justifies a surgeon in advising or urging an operative examination of the kidney? Omitting for the present abnormal conditions which may exist without altered states of the urine, such as some forms of neoplasm and hydro-nephrosis and most cases of excessive mobility, I think we shall not go far wrong if we adopt the following rule—namely, to explore in every case where persistent morbid conditions of the urine are associated with persistent signs referable to one kidney. For example, persistence of even minute quantities of blood and pus in the urine when associated with persistent or frequently recurring pain in one loin constitutes, in my opinion, a sufficient presumption of stone, tubercle, or pyelitis to justify an exploration of the kidney. I do not suggest that any other clinical evidence bearing on the case should be neglected. The object of clinical investigation should be to ascertain, first, whether any morbid condition of the urine which may be found is or is not of

¹ A paper read before the Birmingham branch of the British Medical Association on Oct. 12th, 1899.

renal origin; and, secondly, if renal, whether from one or both kidneys. In many cases the absence of signs of bladder disease, together with well-marked pain, tenderness, and enlargement of one kidney, or typical attacks of one-sided renal colic, are sufficient to constitute not an actual proof but a strong presumption that the morbid condition of the urine is of renal origin and to justify an exploratory operation. Every surgeon must, however, have met with cases where it has been extremely difficult to decide whether blood or pus in the urine proceeds from the bladder or kidney. In such cases hæmaturia may be the only sign discoverable. It is true that there are well-known clinical rules for determining the probable origin of blood in the urine, but of these some are certainly fallacious and others are not always applicable. Renal hæmorrhage, for example, is often sufficiently profuse to form clots in the bladder and to be passed as such at the end of micturition, and I have known this occur even in cases of renal calculus in which hæmaturia is not as a rule profuse. Again, when the blood is small in amount and clearly of renal origin it may not be easy to decide whether it is due to stone, tubercle, or to new growth or to one of the forms of parenchymatous or interstitial nephritis. The presence of renal tube-casts and excess of albumin over blood or the presence of well-marked signs of nephritis may, of course, leave no obscurity, but this collateral evidence may be wanting, and until nephritis can be confidently excluded no surgeon would willingly undertake an exploratory operation on the kidney. In this connexion I may mention what is not always recognised by physicians—that the cirrhotic kidney, the symptoms of which are so often quite masked or obscure, sometimes gives rise to tolerably profuse hæmaturia. In all such cases the use of the cystoscope is invaluable and except in very unfavourable conditions will determine whether the blood or the pus proceeds from one or from both ureters.

The use of the catheterisation of the ureters as a means of diagnosis is one which cannot yet be regarded as an indispensable method. That an examination of the urine obtained directly from each kidney would be of the highest possible value in every obscure case needs no demonstration. The only question is as to what extent is the difficulty and danger of the proceeding justified by the value of the information obtained. In women catheterisation of the ureters presents no very great difficulty, but it is not entirely devoid of the risk of infecting the kidneys. In men the procedure is admitted to be difficult even in practised hands. I have myself adopted a routine procedure which to a certain extent fulfils the same purpose as catheterisation of the ureters and has many advantages over it. This is, before operating on the kidney to which clinical evidence points as the affecting organ, to examine the opposite kidney through a small abdominal incision not more than one and a half inches long immediately below the ninth rib cartilage. With two fingers introduced into the abdomen, using the opposite hand to palpate the loin, a complete and thorough bimanual examination of the whole kidney and the upper half of the ureter is easily made. This simple procedure can be carried out in less than ten minutes, including the closure of the wound. It enables the surgeon to operate immediately on the other kidney with a full knowledge of all the conditions necessary to decide the best course to adopt. In many cases, for example, the question of nephrectomy is sure to arise, and in deciding for or against this procedure the condition of the other kidney is of all factors the most important. I have carried out this plan in several cases but in none was its value more convincingly demonstrated than in the following.

CASE 1.—A man, aged 29 years, with well-marked but compensated mitral disease, had suffered for over two years from severe pain in the right loin. In June, 1899, he had considerable hæmaturia. The right kidney was large and tender; the left could not be felt. In reply to a question he said that he had occasional pain in the left loin but less severe than on the right side. It was decided to operate on the right kidney through the loin. Before doing this I made a preliminary examination of the left kidney through a small lateral abdominal incision and at once came down on a large stone in the pelvis of the ureter. The wound was closed and the operation on the right kidney was proceeded with, as originally intended, through the loin. It was exposed and brought outside by the ordinary oblique incision, and a calculus weighing 77 grains was removed from the pelvis of the ureter together with three other small calculi from the interior of

the kidney. After catheterising the ureter the wounds both in the pelvis and in the kidney cortex were sutured, the kidney was replaced and the wound was closed. A fortnight later a similar procedure was carried out on the left side, but on this side the kidney was a mere sac containing urine, the pelvis of the ureter being blocked by a tightly impacted irregular calculus weighing 150 grains. A smaller irregular calculus was also found and removed. The patency of the ureter having been demonstrated the incision on the kidney was inverted and sutured and the shrunken sac was replaced. A small artery had to be ligatured in the interior of the kidney. In both operations the wounds healed by primary union and convalescence was only interrupted by a rather severe attack of hæmaturia three days after the second operation.

In three other cases in which I have operated for stone in one kidney without previous exploration of the other kidney, symptoms of stone have subsequently appeared on the unoperated side. As the question of bilateral renal calculus is one of great practical importance I will give a brief abstract of these cases, first remarking that all three cases occurred at an earlier date than the one which I have just related and before I had realised the importance of bilateral exploration.

CASE 2.—An ex-soldier, aged 36 years, had had symptoms pointing to the right kidney for five years. In 1893 I removed a calculus weighing 40 grains by the ordinary lumbar incision. The patient was discharged in the following month in good health and he resumed work as a postman. Some months later he returned with an account of left renal colic and hæmaturia. He was relieved by medical treatment and was afterwards lost sight of.

CASE 3.—A clerk, aged 32 years, had had right renal colic and frequent hæmaturia for 14 months. A highly crystalline uric stone of the size of an almond was found in the pelvis of the right ureter and it was removed. A second small stone was removed through an incision in the cortex. The incisions in the kidney and the ureter were sutured. All the wounds healed by primary union and the patient returned to his home on the fourteenth day. Four or five months later he had for the first time an attack of pain in the left kidney accompanied with abundant hæmaturia. He is still considering whether to submit to a second operation.

CASE 4.—A girl, aged 18 years, was admitted to hospital in May, 1897, with an obviously enlarged right kidney and pus in the urine. She had also had pain in the left kidney. The right kidney was exposed in the loin and was found to be so completely disorganised and filled with large and small calculi that it was judged better to remove the kidney and its contents without opening it. The wound healed by primary union, but the patient continued to suffer from pain in the left kidney together with considerable pyrexia. This gradually abated and she returned home comparatively well, but died rather suddenly at home about 12 months later. There was no post-mortem examination.

These last three cases, together with others of which I have heard, and also numerous post-mortem examinations where quite unsuspected renal calculi have been found in both kidneys, have convinced me that bilateral calculi are more frequent than is generally recognised and they help to emphasise the value of bilateral exploration as a routine measure. The method of examination of the kidney by bimanual palpation through an abdominal incision is not, of course, a complete and exhaustive method. Calculi of considerable size may be so completely embedded in the kidney that there is great difficulty in detecting them even when the organ is brought outside the body, and grave alterations of structure in the kidney produced by tuberculous or other inflammations sufficient perilously to impair its function may be impossible to recognise by touch alone.

Negative information obtained by this method cannot therefore be absolutely conclusive of the sufficiency of one kidney to carry on alone the whole function of renal excretion. I merely contend that intra-abdominal palpation through a lateral incision (which for the purpose is incomparably superior to a median incision) enables the operator to obtain, with little difficulty and risk, positive information of great value, such as the presence or absence of stone in the pelvis and upper part of the ureter or any considerable abnormality in the size and consistence of the kidney. If we add to this information considerations derived from the greater or less disorganisation of the obviously affected kidney we have generally sufficient evidence to decide on the propriety of nephrectomy. These remarks apply to

calculus and its accompanying morbid changes. In the case of proposed nephrectomy for tuberculous disease the state of the remaining kidney is of so great importance that it is, in my opinion, wiser to thoroughly explore both kidneys in succession by sight and touch before deciding on the removal of either. In such a case an interval of time between the two operations would be expedient for obvious reasons.

It will be noticed that I advocate the small abdominal incision for exploration only and not when it is intended to open the kidney and remove a calculus. For the treatment of all conditions of the kidney except very large neoplasms the lumbar incision is by far to be preferred to the abdominal incision. Not only is it anatomically the most simple and direct, but the absence of any opening of the peritoneum both keeps the intestines out of the fold of operation and lessens the risk of infective peritonitis when the contents of the kidney are septic. In this preference for the lumbar route I believe most surgeons are now agreed. Mr. Mayo Robson has, indeed, lately advocated an extra-peritoneal operation through the flank without the division of any muscular fibres, and the late Mr. Lawson Tait, I believe, practised a similar operation. The object of this plan is, of course, to lessen the risk of hernia, but I have never yet seen or heard of a case of hernia through the ordinary lumbar incision for the kidney, which appears to me to be simpler and more direct than Mr. Mayo Robson's plan.

The earlier operators who performed nephrotomy and nephro-lithotomy contented themselves with exposing a greater or smaller portion of the kidney through an oblique lumbar incision and incising the cortex or pelvis *in situ*. The objections to this plan are, however, manifold. The kidney often lies at the bottom of a deep wound, where it is not easily accessible, and hæmorrhage from the kidney substance is sometimes troublesome and difficult to arrest. More important still, the procedure does not permit a thorough exploration of the whole kidney and it is very difficult to demonstrate the patency of the ureter, which is an essential precaution in almost every renal operation. It has several times happened that in a case presenting the usual signs of renal calculus the kidney has been explored with negative results and a subsequent operation has found the stone in the ureter.

In other cases one or more calculi have been removed from the kidney, but others have been left in the ureter and a persistent urinary fistula has resulted. For these reasons, in every case where it is possible it should, I think, be a rule to free the whole kidney from its bed and to bring it out on to the loin before it is incised and in every case before returning the kidney to demonstrate the patency of the ureter by passing a probe or catheter down it into the bladder. The advantages of this plan are very great. By packing the wound around the kidney with gauze or sponges and by the use of a trocar and tubing the possibly septic contents of the kidney can be evacuated without contaminating the wound. The whole kidney can be palpated and exposed with thoroughness and ease and hæmorrhage can be easily and satisfactorily controlled. Lastly, the upper part of the ureter can be inspected and a catheter can be passed down it with ease into the bladder. If necessary the ureter can be incised and sutured for a distance of at least two inches from the kidney. The advantages, in fact, of dealing with the kidney as an external organ need no demonstration; the only objection likely to be made is that it is not always easy and sometimes impossible. It is quite true that adhesions may be so dense in cases of old-standing perinephritic inflammation that a complete dislocation of the kidney may be difficult or impossible, but this occurs chiefly in neglected cases or in cases which have previously been submitted to simple nephrotomy, an operation which, except in the emergency of obstructive anuria, should be hardly ever performed. Again, any difficulty occasioned by great enlargement of the kidney can be overcome by preliminary aspiration after exposure of the kidney, when this is cystic, or if the enlargement is solid by prolonging the wound downwards and forwards to a sufficient extent. The most effectual means of obtaining more room, however, is to remove about two inches of the twelfth rib subperiosteally and this I have adopted in several cases with very satisfactory results.

Another question in renal surgery which is frequently discussed concerns the best position of incising the kidney for the removal of calculi. The earlier operators favoured an incision through the cortex which, although giving rise to more hæmorrhage than one through the pelvis of the ureter, was believed to heal more readily and to have less

risk of leaving a fistula. Subsequent experience has shown that wounds of the pelvis heal at least as readily as the cortex and that if there is no obstruction of the ureter there is no fear of the formation of a permanent urinary fistula. As a matter of fact, the pelvis and the upper part of the ureter are extremely common positions in which calculi become lodged, and when the kidney has been brought out on to the loin it is extremely easy to cut directly on to the stone and after extracting it to close the incision with a fine continuous suture. Before doing this the opening in the ureter should be utilised both to introduce a sound into the kidney in order to detect other calculi and also to pass a fine catheter down into the bladder. If in addition to the stone removed from the ureter others are found within the kidney itself the best mode of removing these depends upon circumstances. If small, they may sometimes be removed by a scoop or forceps introduced through the ureter. In other cases it may be simpler and better to make an incision through the cortex directly over the stone. With regard to the use of sutures in the kidney surgeons differ. Some prefer to use no sutures and to drain the wound. For my own part when I have satisfied myself that both kidney and ureter have been freed from calculi I do not hesitate to close the wound in the ureter completely with a fine continuous silk suture, and the cortex, when that also has been incised, by stouter silk sutures passing deeply through the kidney substance. The lumbar wound is then also closed with sutures of strong fishing gut, including all the divided muscles, a small strand of gauze being passed down to the back of the kidney for drainage. If no escape of urine occurs this may be removed at the end of 48 hours, the whole wound healing by first intention. In all the cases, five in number, in which I have sutured the kidney and closed the wound the conditions were favourable. The patients were young and healthy and not too fat. The kidneys were not irreparably damaged and the urine was free from pus and apparently aseptic.

The extent to which it is possible or wise to carry out conservative methods necessarily varies in individual cases. Where the contents of the kidney are healthy, or at any rate not grossly septic, and when obstruction of the ureter can be shown to be absent or can be remedied either by the removal of impacted calculi or by a suitable plastic operation in cases of kinking or stricture, there is no reason why the kidney should not be preserved. This applies even to cases of advanced hydro-nephrosis when the cause of the distension can be determined and removed; unless, however, this is done it is far better to remove the sac than by simple nephrotomy to convert an inconvenient tumour into an intolerable fistula. The presence of infective inflammation and its products in the contents of the kidney greatly limit the scope of conservative measures. The presence of a small amount of pus in the urine is no bar to the suture of the ureter or cortex and closure of the lumbar wound, and if proper precautions are adopted during the operation to prevent the contamination of the wound primary union may be confidently expected. Where the amount of septic material and the associated disorganisation of the kidney are greater it is wiser not to insert sutures in the kidney owing to the danger that they may fail to become encapsuled or absorbed, and in such case drainage of the wound cannot safely be neglected. Lastly, where the stones are very numerous and the kidney greatly disorganised and full of septic matter it is wiser to remove the whole organ without previously opening it, rather than to leave the wreck of the kidney in a large contaminated wound. The advantage of a preliminary exploration of the other kidney before deciding on this course is obvious.

Wolverhampton.

MEMORIAL TO A MEDICAL MAN.—The fund for providing a memorial to the late Dr. W. Hopkin Thomas of Maesteg has just been closed. The sum realised was about £700, and it has been decided that the memorial should take the form of a fountain with commemorative tablets.

INCORPORATED SOCIETY OF MEDICAL OFFICERS OF HEALTH.—At a meeting of the West of England and South Wales Branch held at Bristol on Oct. 19th Dr. W. H. Symons, medical officer of health of the city of Bath, was elected president of the branch for the ensuing year. Dr. Howard-Jones, the retiring president, and Mr. J. C. Heaven were chosen as representatives of the branch upon the council of the society. It was decided to hold the annual meeting at Bath on Nov. 23rd.