before the Academy at some future time, I will not enter into any of the particulars at present.

When considering afterwards the great difficulty experienced in this case in getting hold of the stone with the lithotrite and crushing it, and the unavoidable injury done to the walls of the bladder during the operation, and further the danger of the patient suffering from permanent incontinence of urine from over-distension of the urethra, I determined that in future I would remove any large stone by incision of the vesico-vaginal septum in preference to the method adopted on this occasion.

I have since had the opportunity of putting this resolution into action, and from my experience in these two cases I have no hesitation in saying that the method by incision of the vesico-vaginal wall and subsequent closure of the wound by sutures is infinitely preferable in all cases where the stone is of large size. The exact limit, where danger of permanent incontinence from dilatation of the urethra commences, was shown by the late Prof. Simon, of Heidelberg, to be a diameter of 2 cm. Should the stone, therefore, exceed this limit, I would remove it by incision, rather than by crushing with a lithotrite.

ART. XII.—*Dissecting Aneurysm (Shekleton's) of the Thoracic Aorta, extending to the termination of the Common Iliacs.** By J. MAGEE FINNY, M.D. Dubl., F.K.Q.C.P.I.; King's Professor of Practice of Medicine in the School of Physic, Ireland; Clinical Physician to Sir Patrick Dun's Hospital.

THE specimen of aneurysm of the descending and abdominal aorta which I exhibit^b would have little right to be the subject of any comments, or of a place in the "Transactions of the Academy," were it not an example, and that a very typical one, of the dissecting aneurysm first described and figured by Shekleton in the *Dublin Hospital Reports*, Vol. III., p. 231, and that it presents many collateral points of pathological interest. Thanks to the kindness of the Curator of the Museum of the Royal College of Surgeons, I have here the two specimens which formed the basis of Dr. Shekleton's paper. As this specimen was taken from the body of a patient who had been under observation and treatment for a year and a half, it has an interest which was wanting in those of Dr.

* Read in the Pathological Section of the Academy of Medicine in Ireland, Friday, April 17, 1885.

^b This specimen is preserved in the Pathological Museum, Trinity College, Dublin.

Shekleton which were taken from subjects in the dissecting-rooms of this College.

The following is an abstract of the clinical record of the case, which, however, I will anticipate by remarking that it is entirely silent on the subject of the dissecting aneurysm, and deals principally with the diagnosis and curative treatment of sacculated aneurysm of the abdominal aorta:—

J. W., aged forty-three, married (with healthy grown-up children), a tailor by occupation, was admitted under my care into Sir Patrick Dun's Hospital, on September 28th, 1883, with the symptoms and physical signs of aneurysm of the abdominal aorta. There was an absence of all history of intemperance, syphilis, rheumatism, or injury to which it could be attributed, and at the time of admission, and indeed for many months subsequently, the urine was normal and free from albumen. For two months before I saw him he had complained of pain in the abdomen and back, which, latterly, radiated both upwards and downwards, extending to the left groin and thigh, and was of so severe a character as to prevent his sleeping or attending to his occupation. He also stated that while walking he occasionally experienced a faint feeling, and had palpitation of the heart. He was of a bright, cheery and contented disposition, and, except for an anæmic appearance, visible temporals, a slight "arcus senilis," and a strong rapid pulse (100), he did not at all look the subject of grave arterial disease.

Physical examination demonstrated the existence of a large tumour connected with the abdominal aorta, situated above its bifurcation. It measured $3\frac{1}{2}$ inches long $\times$ $2\frac{1}{2}$ inches broad. It lay above the umbilicus and a little to the left of the middle line, and conformed to the typical signs of a sacculated aneurysm—viz., distensile pulsation, synchronous with the heart's beat; immobility to handling, change of posture, or deep inspiration; the presence of a systolic blowing sound over an area of two square inches, diminishing as the stethoscope was moved towards the ensiform cartilage, or over the ilia; and, lastly, the presence of a similar murmur in the back over the first three lumbar spines.

As the case was considered one well suited for Tufnell's modification of Valsalva's treatment, the patient was at once kept in the recumbent posture, placed on a regulated but liberal dietary, and given iodide of potassium in 5 and, later on, 7 grain doses. As he experienced relief to all pain and uneasiness in a very short time, the treatment was faithfully carried out by the patient for two months while in hospital, and after he went home for another two months. He was then readmitted for the purpose of examination of the aneurysm. When leaving hospital, December 15th, 1883, the dorsal murmur was no longer audible, and the sac of the aneurysm was very firm below, and at either side, though not

above, and the murmur, which was faint and distant at the lower, was still distinct at the upper part. The clinical note made in March, 1884, was to the effect that the tumour was firmer, and heaving rather than distensile; the murmur was not altogether gone, but was distantly heard, and confined to a small area at the upper left side of the aneurysm. The patient was now allowed to sit up for a time each day, and as, after four months' treatment and one month's subsequent observation, no relapse or change for the worse seemed to take place in the aneurysm, he was discharged cured at the end of April, 1884. He was soon able to walk about the streets slowly, and in June he went back to his work as a tailor, doing light jobs, without experiencing any return of abdominal uneasiness or dorsal pain.

It is right, however, to say that while the local disease was cured, his general condition was one by no means free from anxiety, as he had passed through two attacks of pericarditis during the foregoing five months. Each attack was of short duration, and did not pass the stage of lymph exudation; at the same time the heart had become increased in size, and showed signs of simple hypertrophy, though without valvular incompetency. From these indications the prognosis as to complete restoration to health was most guarded. How wise this opinion proved to be the sequel soon showed. In September he unfortunately undertook too heavy a job, and worked beyond his powers and against time, often till late at night. The strain proved too much, and he was struck down with apoplexy, followed by an incomplete right-sided hemiplegia and aphasia. For this he again came under my care in hospital. Two features of some interest were then present—one was the occurrence of albuminuria along with a few granular casts, showing that the kidneys were undergoing fibroid degeneration; and the other was the presence of well-marked Cheyne-Stokes' respiration, particularly on the patient lying low down on his back in bed.

From this attack of hemiplegia he never recovered, and, although he was well enough to walk about again and to leave hospital, he showed evidences of increasing enfeeblement of the motorial and psychical powers of the brain, and had a second attack in December which left him bedridden, and he died in hospital of asthenia on February 10th, 1885.

It is worth noting that during the eleven months subsequent to the time when the sacculated aneurysm was considered cured (March, 1884), there was never any return of pain or other evidences of a return of the disease.

This anatomical illustration shows a frontal section of a human torso with the abdominal cavity open. The liver (G) is the large, dark, central organ. Above it is the stomach (A). To the right of the liver is the spleen (E). On either side of the liver are the kidneys (R and R'). The lungs (B and B') are at the bottom of the image. The diaphragm (D) is the horizontal structure separating the thoracic and abdominal cavities. The illustration is labeled with letters A, B, C, D, E, G, R, and R'.

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Another comment I would make, and that is to the effect that there is no indication from the symptoms during the period of a year and a half within which he was continuously under my observation, nor in his history prior to the time I first saw him, as to when or how the dissecting aneurysm of the aorta commenced, or as to whether its presence in any way added to or modified the signs of the prominent saccular abdominal aneurysm.

A *post mortem* examination was made by Dr. Kiddle, our efficient house surgeon, to whom my indebtedness is great for the careful and complete manner in which the heart and aorta and iliacs were removed in their totality. It was confined to the thoracic and abdominal cavities. The lungs, liver, and spleen were healthy. The anterior surface of the heart near the apex was covered with a layer of organised lymph, the result of pericarditis. The heart itself was greatly enlarged, its increase in size and weight being due to simple hypertrophy of the left ventricle. The valves were competent; the anterior curtain of the mitral had, however, a small patch of atheroma near its basal attachment, and one of the aortic valves was slightly fenestrated. Subsequent examination of the parts removed revealed a condition of pathological changes in the arterial system, not alone entirely unexpected, but, as viewed from the small amount of suffering and other subjective and objective symptoms during life, most surprising.

The aorta, throughout its whole length, exhibited a beautiful example of atheromatous changes in its earlier stages—from the small, soft, red, velvety spots to the scabrous, rigid, calcareous patches, though of these latter there were very few. Situated an inch and a half above the diaphragm, a circular opening (*A*) was discovered in the anterior wall of the thoracic aorta; it measured one and a quarter inches in diameter; its edges were sharply defined, the upper was thin and sharp, and the internal coat of the vessel was carried seemingly through it; the lower limit consisted of a bony plate which stretched quite across the calibre of the vessel. This opening led directly to an aneurysm, consisting of the outer and part of the middle coat, and which was the starting-point from which a dissecting aneurysm of the aorta had its commencement. The dissection is both upwards and downwards—upwards for a distance of three inches, where it terminates in a consolidated aneurysm (*C*) ($2\frac{1}{2}$ long $\times$ $1\frac{1}{4}$ broad). This sac lay in the posterior mediastinum, where it probably pressed on no important organ. The downward dissection (*G G*) occupies two-thirds of the anterior

and right side of the aorta, and extends throughout its whole course, and also with the greatest symmetry, through both common iliac arteries to their termination (*A B B'*). It thereby produces an appearance as if these three arteries consisted of two tubes. This idea is further impressed by the fact that most of the branches which ought to be given off by the aorta spring from the aneurysmal sac, the only branches from the normal channel being the superior mesenteric, left renal and the lumbar arteries. The inner surface of the aneurysmal sac, which contained a soft clot, is corrugated in parts, but is smooth and as if lined by a membrane in most of its course, and from it the arteries spring as if from the aorta itself. The sac is much larger in calibre than the aorta, which is very much narrowed throughout, while it is so constricted near the upper end of the aneurysm as to barely admit a No. 8 catheter. The iliacs, at their commencement, are also much narrowed. The two tubes communicate at the bifurcation of the iliacs (*B B'*), or rather at the point of junction of the external iliac artery on either side, by one small aperture through the lining membrane on the right side, and by two similar small openings on the left side.

Another, and novel, feature is the aneurysm (*D*) for which the patient came under treatment, and which was the only one which had been recognised during life. On opening the abdomen, it came to view at once, projecting forwards below the coeliac axis. It was very firm to the feel, and, on section, was a beautiful example of a firm, white, organised clot, into which the sac had been converted. Its coverings consisted of the outer coat of the aorta and part of the middle coat, except at its most prominent aspect. It measured five inches in circumference, and was three and three-quarters long by two and a quarter broad. It extended from an inch below the renal arteries to the bifurcation of the aorta into the iliacs, and from its left side were attached the inferior mesenteric and (?) left spermatic. The middle sacral vessel could not be found. Instead, however, of springing from the aorta, or being an aneurysm communicating directly with the interior of the aorta, it was found that it was a sacculated aneurysm springing from the anterior wall of the sac of the dissecting aneurysm already described.

Its cause was not hard to explain; for, although there was an absence of atheroma to act as a factor, it was, doubtless, due to an extra weakening of the middle and external coats in this situation, and while the dissection was going on down the iliacs the anterior wall of the sac gave way in this particular region. That this was its

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formation is strengthened by observing a similar small pouching—sufficient to admit the tip of the index finger—which was beginning in the dissected portion of the right common iliac artery. Again, the unequal distension of false aneurysms is a feature of frequent occurrence. Around this aneurysm, and adherent to it near the spine, were several enlarged and calcified glands. The trunk of the cœliac axis was found to be converted into a solid mass, and, on section, it was seen to have been the seat of a true aneurysm the size of a filbert nut (*E*). It was filled with a firmly adherent white coagulum, which completely filled the aneurysm, and blocked up its two larger branches—viz., the hepatic and the splenic. How the circulation was conveyed to the liver and spleen under such circumstances is a matter of no little interest, and, though not verified by an examination of the vessels—since this aneurysm was only accidentally discovered while preparing the larger aneurysms of the aorta—there can be no doubt that the coronary artery became the main conduit, and that, by the anastomosis maintained through the *pyloric* on the right and the *vasa brevia* on the left, the blood travelled in this circuitous route to these organs in sufficient quantity to supply them with nutrition and functional activity.

The kidneys were unaltered in size, but were examples of Bright's disease in the stage of interstitial nephritis. Professor Purser kindly examined sections of one, and found there was considerable increase in the connective tissue.

Remarks.—Dissecting aneurysms were recognised and described considerably before Shekleton's time. To Laennec the credit of priority has generally been accorded, but Dr. Peacock (*Trans. Path. Soc., Lond., Vol. VI.*), claims it for M. Maunoir, in 1802.

These aneurysms are usually described as of three varieties, or, more correctly speaking, degrees. The first, and that most frequently met with, and of which our museums contain many examples, is where the blood passes through a rupture of the internal coat of the vessel, and for a distance of one or more inches dissects the outer from the middle coat, or else separates the laminæ of the middle coat, and then finally either becomes a secondary false aneurysm in the areolar tissue surrounding the vessel, or else bursts into some of the neighbouring cavities.

When such an aneurysm is situated close to the beginning of the arch of the aorta, it not infrequently is the cause of sudden death, and the sac has been found to have ruptured into the pericardium.

The second, which may in many instances be but the early stage

of the first, is that in which the blood, after making its way between the layers of the middle coat, seems to be arrested in its onward course, and may thus form a false aneurysm of limited extent.

The third, or that of Shekleton, is where, after separating the internal and external coats, or in the layers of the middle coat, the blood re-enters the normal channel through a second rupture of the internal coat. Shekleton describes it thus:—"The aneurysmal sac communicated with its own artery by a distinct opening at some distance from the original opening of the artery into the sac—thus, two channels for the blood into the artery beyond the aneurysm were established, the one through the canal of the artery, as in common aneurysm, the other through the sac."

The specimen I exhibit is an example of both the second and third varieties, for not only is it a beautiful specimen of Shekleton's, but from the aneurysmal sac spring two defined and well-marked aneurysms caused by the yielding of the outer coat.

Dissecting aneurysms are, comparatively speaking, very rare. In the Trans. Path. Soc., London, 1863, Dr. Peacock has tabulated and collected, from various journals, every variety described up to that time from the year 1809, and the total number is but 80. I have carefully searched for additional recorded cases since 1863, in the Trans. Path. Society of London, and I find but 9 cases were presented during twenty-one years; while during the same period in the older Society, the Pathological Society of Dublin, I can find only 5, and in addition a beautiful specimen recorded by Mr. Knott before the Surgical Section of the Academy of Medicine in Ireland, in Dec., 1882 (*Medical Press*, Vol. II., 1882), making the total, up to date, to be 95 dissecting aneurysms of all kinds. The *London Medical Record*, since 1863, gives no additional example, nor has any aid been afforded by consulting Dr. Neale's multifarious "Medical Digest."

I do not presume to say that only 95 cases of dissecting aneurysms have been met with and described during the last eighty years, but the unmistakable fact remains that such cases are of very considerable rarity. In the great majority of instances dissecting aneurysm occurs in the aorta in the first instance, though the separation of the coats of the vessel is not uncommonly carried beyond the aorta into its larger branches, such as the brachio-cephalic and the iliac arteries. The most common seat of origin—namely, the rupture of the internal coat, is close to—one to two inches from—the aortic valves. Of the 95 cases referred to, 79 occurred within the limits of the arch of the aorta. In 11 instances the primary rupture

occurred below the origin of the left subclavian in the descending portion of the arch, while of the thoracic and abdominal portions of the aorta there were found but 6 cases. To this number this specimen adds a seventh.

It is further interesting to observe that of Shekleton's variety there are not more than 9 or 10 on record, while in extent and position there are but 3 or 4 cases which at all closely resemble those described by him. The longest course taken by the blood between the coats of the aorta and of its terminal branches is that in a case recorded by Dr. Swaine (Path. Trans., London, 1856, Vol. VII.), where the blood escaped close to the aortic valves through the internal and middle coats, and separated (dissected) them from the outer coat the whole way down to the right common iliac artery, where it re-entered the normal channel through a small aperture.

Two other and almost identical cases were exhibited at the Pathological Society of Dublin, in 1864—one by Dr. G. R. Symes, and one (by drawing) by Dr. Gordon, to whose kindness I am indebted for this drawing [exhibited], and a third by Mr. Knott, already referred to. In these cases, as in that I now exhibit, the aorta and the iliacs seem as if they consisted of double tubes. In my case the aneurysmal tube is very much the larger, while, owing, doubtless, to this very cause, the original tube is much reduced in size.

The case again seems to be peculiar in its mode of origin and in its symptoms; for, in almost all the recorded cases in which the life-history was known, whether an atheromatous condition of the aorta be mentioned as being present or not, there is a certain moment when symptoms of a decided character occur, such as syncope, breathlessness, pain—often like *angina pectoris*, and from that instant till death a few hours or a few days are the measure of the duration of life. Doubtless the period which elapses between the first symptoms of shock and those after reaction has taken place, and the mode in which death ensues, are alike mainly influenced by not so much the seat of the internal lacerations, and as to whether or not the blood can again re-enter the natural channel, as is the peculiarity of Shekleton's, but as to the way in which the primary opening of the sac occurred. Thus, in nearly every recorded instance the seat of the primary rupture of the internal coat is accurately defined, and the usual description of it is that it is marked by a rent which is either "linear" or "slightly ragged," or

as if "cut with a knife." And in all these cases life was measured by hours, or, at longest, three months (Swaine).

On the other hand, in all the cases which have been accidentally discovered either in the *post mortem* room (as in my case), or in the dissecting room, such as the two by Shekleton and those by Symes and Knott, the aperture which primarily led from the aorta into the sac of the dissecting aneurysm does not conform to the above description, but is large and wide, and bordered by a hard if not calcareous edge.

To the primary formation, therefore, of the dissection, as to whether it be a sudden rent through the internal and middle coats, or a gradual yielding due to atheromatous weakness, we are, I believe, justified in attributing the marked differences in the life-history and its duration in each class of case.

To point this more forcibly, I would note that in my case at no period was there any evidence to signalise the time when the dissecting aneurysm began, to indicate when the extensive separation of the outer coat was proceeding, and when the renal and inferior mesenteric arteries were cut off from the lining membrane of the aorta and communicated with the aneurysmal sac instead, or to show when the internal coat of the iliac arteries was ruptured to allow the blood again to reach its proper canals. This absence of symptoms is, indeed, most remarkable, and is but another instance of the extent to which pathological changes may take place and be unaccompanied by any constitutional disturbance or other symptoms.

I am disposed to consider that in this case, at least, the dissecting aneurysm was consequent upon, and subsequent to, the formation of a small saccular aneurysm of the thoracic aorta, and I would suggest the following as its solution:—

An atheromatous condition of the aorta throughout its whole course was the primary ætiological factor, and caused an hypertrophy of the left ventricle. A couple of inches above the diaphragm there existed a large patch of atheroma which advanced to the stage of calcification. Here, just above this rigid patch, owing to the loss of elasticity, the arterial wall yielded, and a saccular false aneurysm was formed, covered by the outer and either the whole or part of the middle coat—most probably the latter. The lower limit of the mouth (*A*) of this pouch, which measures an inch across, stood out sharp and abrupt, and as at each systole the blood was forcibly driven through the aorta and against this rigid obstacle, the current was divided and part was directed upwards.

The layers of the middle coat were thus more and more separated, and a dissecting aneurysm in an upward direction was produced, and extended along the anterior aspect of the aorta for a distance of two and a half inches (*B*) from the opening ring of the primary saccular aneurysm.

A similar process, and due to similar causes, took place at the same time or subsequently in a downward direction along the anterior two-thirds of the circumference of the aorta, and produced the aneurysm (*A B B*¹) which extended with remarkable symmetry into the iliac arteries to their bifurcation.

The specimen has, however, another peculiarity which enhances it with further interest, and I cannot find any other exactly similar case among those published. I refer to the two circumscribed aneurysms which spring from the anterior aspect of the abdominal artery.

The last point to which I would shortly call attention is, perhaps, the most interesting from a therapeutic point of view—and from which pathology must never be divorced—and that is, the complete and firm consolidation of the two sacculated aneurysms which sprang from the sac of the dissecting aneurysm, as well as of the third true aneurysm of the cœliac axis. In each case the sac is filled with a firm, decolorised coagulum of fibrin, which, from its stratified appearance in section, must have been deposited in successive layers, the oldest and most organised being that next the outer wall, the latest and less organised that washed by the blood. In the case of the aneurysm of the cœliac axis there is no channel through the fibrin which completely blocks the vessel.

This is not the place, nor is it my intention, to discuss the general question of the treatment of internal aneurysms, but I now only remark that such specimens of consolidated aneurysms should encourage us still more to carry out the line of treatment with which the name of Mr. Jolliffe Tufnell, F.R.C.S.I., is justly associated, and which is now universally acknowledged to be the most reliable, if not the only, treatment for these aneurysms of internal arteries. For I look upon such treatment as that described in recent journals, of abdominal section, and inserting yards of wire into the sac of an aneurysm, as most unreliable, if not a very questionable proceeding. Many adjuncts doubtless belong to Tufnell's treatment, but its essential principle is to quiet the circulation by rest in the horizontal position (which may have to be maintained from two to four months), so that the fibrin may be

deposited, layer by layer, from without inwards, and when so deposited may become consolidated and organised.

To insure a successful result there must, however, be another condition, on which Mr. Tufnell lays considerable stress. But, unfortunately, it is one which cannot be counted on with any degree of certainty until a trial of the treatment has been systematically made—and that is that the outer wall of the aneurysm must consist of part, at least, of the arterial coverings. Where this vital covering does not exist, coagulation and fibrination do not take place. To the absence of this covering, which receives its independent vital supply, is to be attributed the failure of the treatment in those aneurysms which, springing from the back or side of the abdominal aorta, cause absorption and destruction of the arterial walls by their growth and pressure against the vertebral column or the ribs, and where consequently these structures (which are themselves continuously undergoing retrograde metamorphosis and absorption) form the posterior limit to the aneurysmal sac.

ART. XIII.—On the Necessity of an International Pharmacopœia, considered from the Point of View of the Medical Profession.^a

By F. J. B. QUINLAN, M.D., Dubl.; Professor of Materia Medica and Therapeutics, Catholic University Medical College; and Examiner in the same, and in the Royal University of Ireland.

UP to about a quarter of a century ago we had in the United Kingdom of Great Britain and Ireland no less than three distinct and perfectly independent pharmacopœias—those of London, of Dublin, and of Edinburgh; and many inconveniences and occasionally dangers resulted therefrom, although the differences in the strengths of many of the more active preparations were not as pronounced as may now be found in those of the different European Pharmacopœias of the present day. Many of our most distinguished physicians had recommended the incorporation of our three pharmacopœias; but local prejudices or mistaken national sentiments prevented this fusion, and it is possible that the anomaly might have continued to the present had not the sharp sword of an Act of our Imperial Parliament cut this Gordian knot by ordaining the preparation of one uniform pharmacopœia for the United Kingdom of

^a This is a translation of an Address delivered in French in the Palais des Académies, Brussels, before the International Pharmaceutical Congress, on the 1st of September, 1885.