PROCEEDINGS OF THE PATHOLOGICAL SOCIETY OF DUBLIN.

President—ARTHUR WYNNE FOOT, M.D.

Secretary—E. H. BENNETT, M.D.

Rupture of the Bladder.—DR. E. H. BENNETT said: But only four cases are recorded in which, after a rupture of the bladder as distinguished from wound, recovery took place. One of these is a case of Professor Syme, in which he made a sufficiently clear diagnosis to justify him in making an incision on the first view of the case. Two of the remaining three recorded cases are suspected to have been intra-peritoneal ruptures. The rupture may be such as either to extravasate the urine into the cavity of the peritoneum, or to extravasate it externally to the peritoneum; and there are fair grounds for inferring that in at least one of the cases that recovered the rupture was intra-peritoneal. Houel, who is the best authority on the subject, and has collected the largest number of cases, has collected 37 cases of rupture of the bladder as distinguished from injuries of that organ by gunshot wounds and stabs; and of these—excluding the cases of recovery I have already mentioned—no individual lived beyond fifteen days. The man of whose case I am now about to speak lived for full five weeks. The difficulty of recognising the rupture and of treating the case, of course, adds interest to the matter, but particularly the great duration of the case, and also the mode of death. The patient was aged twenty-seven years, a sailor, a powerful, strong young man. On the 18th of last May he was admitted into the hospital, having been about an hour previously engaged in a fight outside a public-house. He and his companions were so drunk that it was impossible to learn where he had been struck, or whether he had been struck at all; but some vague idea existed among them that he had been butted in the belly by a man with whom he had been fighting. Another story was that he was kicked between the legs, but there was no wound or bruise whatever. When admitted he was pulseless—or, at all events, his pulse was intermittent and irregular—and he was also cold, pallid, and unconscious. The Resident Pupil had him placed on a bed, and thinking his state of collapse the most urgent symptom, gave him a stimulating drink consisting of a small quantity of sulphuric ether, which immediately induced vomiting. He vomited a great quantity of porter, and immediately rallied. All the symptoms of collapse appeared to have passed off when the stomach was emptied. No external wound or bruise could be discovered, and the patient was too drunk to give anything like a

definite answer to a question. He made an effort to pass water, and first passed a considerable quantity of bloody urine—about two ounces. This condition of affairs alarmed the gentleman who had charge of him, and suspecting a wound of the urinary organs, he sought the advice of the House Surgeon. In half an hour's time the man had emptied his bladder freely. He passed more than a pint of water stained with blood, and this having taken place, no exploration of the urinary organs with an instrument was thought necessary. He fell asleep, and there was no further note of him until I saw him the next morning. He then presented no remarkable phenomena of pulse or temperature, and no remarkable expression of pain, and could pass water freely. The urine was bloody to a slight extent—just smoky. At this time I confess I did not suspect that he had sustained so grave an injury as rupture of the bladder, and as his water was passing freely, and without distress, I thought it better not to introduce an instrument, fearing that it would renew the hæmorrhage. The case went on for three days before it seemed necessary to pass an instrument. On the 24th a tumour was so palpable in the hypogastric region that the first idea (retention of the urine not existing) was that there was a mass of extravasated blood there. He had recently passed water, and there was no reason to suspect that the bladder was distended. I passed an instrument, but only a few drops of water escaped, and without blood. There remained a tumour of considerable size, which extended to within an inch of the umbilicus, and was perfectly firm and hard. On passing my finger into the rectum I found that the tumour projected back, and filled the hollow of the sacrum. At this time I diagnosed an extra-vesical bloody tumour, though that diagnosis afterwards turned out to be wrong. The tumour was so firm and dense that I thought a large extravasation of blood had occurred outside the bladder in the areolar tissue of the pelvis, and that it was best to avoid active interference. His temperature, as the chart shows, was never above 100°, and subsequently ran on for two or three weeks without any elevation whatever above the normal point. His pulse was slow, and for many days there was no febrile disturbance. The last point noted by the Resident is of interest. He complained of tenesmus and constipation of the bowels, and got a starch and opium enema, which relieved him. He continued in this condition for some time, eating his meals very well, and, so far, his state appeared favourable. He was out of bed and about the ward for many days, and his case was a matter of considerable clinical interest. In the second week his urine became fœtid. In consequence of this and the distress the fœtor induced, it became necessary to wash out the bladder, and for some four weeks his bladder was washed out carefully each day. As we washed it out, and after removing any urine, we found, by shifting the instrument, that there was a place to the left of the hypogastric tumour from which we could press

off urine. It was not until that condition occurred that the question of ruptured bladder arose. I submitted that question to my colleagues, but they were unanimous in disagreeing with me that any rupture could have occurred. We found that we could press the urine from a cavity which was not that in which the instrument rested first, and that we could also inject the cavity with a disinfecting solution, which was done from day to day. There was no redness or tenderness over the tumour which could be pressed and handled, nor was there any tenderness behind. About the 13th of June a new symptom occurred. He lay on his back, as if he had an attack of peritonitis, and declared that the pain he suffered was so great that if we did not relieve his bowels he would burst. This was his great complaint, and it was only by the most active purgatives that we could obtain any motion of his bowels. By the use of a long tube on two or three occasions we were able to relieve him, and as soon as the bowel was emptied he lapsed back into his former condition for a couple of days. His bowels refilled, and the case assumed very much the character of one of intestinal obstruction, such as cancer of the rectum, or of the sigmoid flexure, produces. Some six hours after the passage of a long tube on one of the occasions that it was used, he was suddenly attacked with diarrhœa, and from that time his bowels absolutely flowed away. There was no command over them; and after a couple of days of this, he died of asthenia. The mode of death was exactly like that which occurs in cases of obstructed intestine, and it was not through the urinary phenomena that death was reached. On opening the abdomen the first point of interest was the tumour. Cutting through the wall of the abdomen at the hypogastrium, we passed into a great cavity containing a mixture of urine and the fluid contents of the intestine. The whole of the pelvis and the upper limits of the tumour were filled with fœtid urine and fluid fœces. The colon passed across the top of the tumour, and was so intimately adherent to it that it was not easy to separate it. Pressing the parts aside, and opening the cavity, this material presented itself [exhibited], and without any further dissection we were able to lift the colon out. Floated in water, it is a most beautiful specimen of a dissection of areolar tissue. The entire of the areolar tissue of the pelvis is here; the entire of the loose areolar tissue in contact with the viscera came away in one piece. Passing down, we found the bladder thrust back into the hollow of the sacrum perfectly collapsed and flat, lying at the bottom of the pelvis, and resting on the rectum. The whole of its areolar covering was gone. The lower third of the rectum was stripped entirely of its covering—in fact, the rectum passed through the cavity which contained the slough, the fœces, and urine. In the anterior aspect of the bladder was this round hole. It is nearly the size of a half-crown or florin, and has a rounded margin, though with some amount of irregularity. I cannot say whether the

original rupture was transverse or vertical; ulceration has destroyed the original margin. The mucous membrane of the bladder is inflamed, but not lacerated or diseased to any extent. The portion of the colon which passed over the tumour is here, and you can see the very point where they come into connexion with each other. The intra-peritoneal aspect is perfectly healthy, for he never had peritonitis. There is a rupture of the colon, but it was secondary. The colon became adherent to the surface of the urine-containing cyst; and towards the termination of the case, during one of the periods of distension, or possibly owing to the passage of the tube, the colon which had thinned away to an extreme degree ruptured into the cavity, and that having occurred, the fatal phenomena, accompanied with diarrhœa, set in. Of all the features in the case, the absence of the phenomena characteristic of rupture of the bladder in the first instance, and the retention of the power of urinating were most remarkable. The man never required a catheter to relieve him of urine, and it was merely used for the purpose of washing out the bladder. The extremely small amount of disturbance affecting the case for many weeks was also remarkable.—*January 22, 1881.*

Canine Dumb Madness.—The REV. DR. HAUGHTON, F.T.C.D., said: This case is in some respects an interesting one. It is a case of death of a fine pointer dog from a disease called dumb madness. The dog was the property of my friend, Mr. Wilfred Haughton, and Dr. Macalister and I made a careful examination of the remains. I have not been able to find anywhere an accurate account of the symptoms of the disease, and I thought that the notes of the symptoms would be of some interest. They were made by Mr. Wilfred Haughton a few days after the animal's death. Dr. Haughton read the notes as follows:—"Pointer dog, four and a half years old. On the 25th of December he was out for a walk and seemed perfectly healthy. On the 26th he was in his kennel all day. On the 27th I observed that his muzzle was soiled as if he had been rooting in earth and had not cleaned himself thoroughly, and there was also a very slight ropy slobber from his mouth. I took no particular notice of the symptoms, as he followed me into town and seemed nearly if not quite as lively as usual. On the 28th the dog was evidently very ill. He had eaten but little from the night before. My practice is to feed my dogs once a day in the evening. When I saw him he was standing half out of his kennel; his mouth was partly open, and ropes of saliva were hanging from it. I opened his mouth and examined the inside. The lips and mucous membrane generally were livid and unhealthy-looking, and also rather dry, and his breath was very heavy. There was no want of intelligence; on the contrary, he seemed to understand that there was something wrong, and

rather appealed to me for assistance. He followed me to my office and thence to Store-street, although unwilling to come the latter part of the way; still he brightened up, and ran over to a couple of dogs we met at the Custom House, and smelled them, as dogs will do, although his mouth remained open all the time. His jaw seemed to drop further open as the day advanced. I saw him again about three o'clock, when he still knew me and came to be petted, but was evidently getting rapidly worse. He lay by the fire, feverish and uncomfortable, but not apparently in any pain, and without whining or whimpering. I brought him to Mr. Lambert, who pronounced the disease to be 'dumb madness,' and said he considered the case a bad one. On Thursday morning, the 30th of December, I received a note from Mr. Lambert saying he did not think the dog could recover, and asking my permission to have him destroyed, which was done forthwith. Up to the morning of the 28th of December the dog's evacuations seemed quite natural. He had always been a healthy dog, and if he ever had distemper it was so mild as not to be distinguishable from a slight cold." The dog was shot in the head. Dr. Macalister, on making the *post mortem* examination, found the lungs, heart, and liver perfectly healthy. The only signs of a diseased condition were found in the duodenum and stomach, but Dr. Macalister concurs with me in thinking that there is nothing so peculiar in them as to justify us in saying that it was the cause of the dog's death. The pyloric end of the stomach is more wrinkled than usual, and when recent was covered with red, glary, ropy fluid. The rest of the stomach is in the condition usual in dogs. At the œsophageal end of the stomach there is a patch about the size of two crown pieces. The duodenum is thickened and the glandular structure largely developed, but Dr. Macalister agrees with me that there is nothing whatever in these conditions to account for such serious symptoms as the dog showed. There are some hardened fæces in the lower part of the rectum, and a few worms, but these are not of the slightest consequence. The brain and top of the spinal cord have been injured by the mode of death, but the lower two-thirds of the cord are perfectly natural and healthy. In the upper part there is some slight congestion, but we are not certain that this was not caused by effusion of blood resulting from the mode of death. The congestion at the œsophageal end of the stomach was so great that, finding nothing to account for death, Dr. Macalister and I came to the conclusion that the dog must have been poisoned. The lungs were perfectly free from congestion, and therefore all idea of strychnine poisoning was out of the question. I cut a piece out of the upper part of the stomach where the congestion was strongest, and had it carefully examined in Dr. Reynolds' laboratory for metallic poison, and the result was that not the slightest reason was found for believing that anything of the kind had taken place. Mr. Wilfred Haughton says

he has no suspicion of poisoning. I do not know anything myself of this disease, but I have heard from kennel-keepers that it is very contagious, and that dogs take it from each other very rapidly. Whether it is only spread by contagion, or whether dogs living on the same kind of food and under the same conditions would get ill of it together, I do not know, but I think the name "dumb madness" a perfectly absurd one. It has no connexion with hydrophobia. The dog's jaw was dropped as if he could not close it, and the powerless condition of the jaw seemed to increase as the dog got worse.—*January 22, 1881.*

Empyema Opening into the Œsophagus.—DR. FOOT laid before the Society a case of empyema of the right side of the chest, discharging itself by the Œsophagus. The empyema was one confined to the posterior part of the chest by dense adhesions. The pus had invaded the posterior mediastinum, and, burrowing across in front of the aorta, came in contact with the Œsophagus, which lies most to the left of the contents of that region. Two sloughy apertures, close beside one another, existed in the right side of the Œsophagus, and are seen both in the specimen and in the coloured drawing [laid on the table] to communicate freely with the pleural cavity; they admit the passage of No. 10 catheters, and are situated just above the place where this tube is in contact with the back of the pericardium. It does not appear that the empyema had evacuated itself to any great extent by this channel, as purulent regurgitation was not observed during life. It might, however, be objected that, from the situation of the apertures, the pus would pass into the stomach and be digested—none, however, was found in that organ after death. As the side had not become deformed or collapsed, and the empyema contained about a quart of pus, it is unlikely the opening had been of long existence, or had materially discharged the contents of the pleura. The empyema was not of large extent; it belonged to the class called circumscribed; it was bounded anteriorly by the condensed lung, posteriorly by the heads and necks of the ribs, internally by the posterior mediastinum, and externally by dense adhesions between the lung and the angles of the ribs. The subject of the case, a man forty-eight years of age, had died, after an illness of about nine weeks, in a state of dyspnœa, cyanosis, and general anasarca; the face was more œdematous than other parts of the body, and anasarca of the eyelids was very noticeable. This was due to compression of the superior vena cava, by the condensed right lung pushed forwards and inwards by pleural abscess behind it. The cause assigned for his illness was a hurt in the right side, received from the edge of a door at which he was struggling to prevent some persons breaking in' through. The left lung is voluminous, and over-distended with blood and air; the right side of the heart is filled with a firm coagulum, due to stasis of the pulmonary circulation. The exit of an

empyema by the œsophagus is rare; the mediastinum itself forms a barrier to be got through before the pus can exert its corrosive action on the œsophagus. Two sessions ago he (Dr. Foot) had brought before the Society the case of an empyema which had invaded the vertebral canal. The more usual modes of escape were by an opening on the exposed parts of the chest—"empyema necessitatis"—and through the lungs by way of the bronchial tubes.

DR. J. W. MOORE, in reference to the foregoing case, said: John C., aged forty-eight, married, by occupation a smith's assistant, was admitted to Ward 15 of the Meath Hospital, on December 17, 1880. He was complaining of difficulty of breathing, and a "catchy" pain in the lower part of the right side of the chest. He had been ailing for five weeks before admission to hospital. He attributed his illness to a hurt—a blow on the right side, received while acting as a peacemaker or "go-between" in a quarrel. After some time a cough came on, which was troublesome, and was accompanied with a white frothy "spit." His appetite was bad; the tongue was furred, and he stated that his bowels were irregular, chiefly confined. Before admission his right side had been blistered with considerable benefit. He said the pain had thus been greatly relieved. He was anæmic, of a rather ashen-gray complexion. There was marked œdema about the right eyelids; also slight chemosis of the right conjunctiva was observed. Pulse 88, resp. 28, T. 99·6° on the morning of December 18. The temperature had been 102° the previous evening. Physical examination showed lessened expansion over the right side. The respiration was chiefly abdominal in type. The percussion note was very clear over the left apex. It was of higher pitch over the right apex. The area of hepatic dullness began at the sixth rib in the mammary line above, but dipped fully 1½ inches into the right hypochondrium below the margin of the costal cartilages. There was a great deal of tenderness on pressure in this situation. Posteriorly, dullness extended upwards almost to the spine of the scapula. There was no prominence or even effacement of the intercostal spaces. It was particularly noticed that vocal fremitus was not materially different over the right side from what it was over the left. Having regard to the physical signs and history of the case, a presumptive diagnosis was made of pneumonic consolidation with a moderate right pleural effusion. I carefully then tapped the right chest three times with a hypodermic needle and syringe, but failed to find any fluid. Accordingly, I fell back on the diagnosis of a mediastinal tumour (perhaps sarcomatous), compressing the right lung. In the intense cold of January, collateral œdema of the left lung seemed to occur and to lead to his death.—*January 29, 1881.*

Rupture of the Heart.—DR. CORLEY said: The case I have the honour of laying before the Society is one of interest purely in a pathological

point of view, for the man was brought in dead to the Richmond Hospital. Dr. Lentaigue was commissioned by the coroner to make a *post mortem*, and the result is this specimen [exhibited]. The history of the case, as far as could be obtained from the deceased's relatives, was this:—The man, who was about seventy years of age, had, for some two years preceding his death, been affected by symptoms of a mild form of angina pectoris, irregularity of the heart's action, pain about the chest and left arm, and retching, but he never fainted or lost consciousness in any of those attacks. He was of somewhat intemperate habits. During the recent cold weather he went, on yesterday three weeks, to a friend's house. He had been in rather destitute circumstances, and had not been taking as much food as would be necessary to nourish a man of his age. At the friend's house he was offered a bowl of soup, which he took, and shortly afterwards he stretched himself on a chair and expired. He did not fall off the chair, but a man who went to him found that he was dead. He was brought to the Richmond Hospital, where a *post mortem* examination was made, and disclosed the following conditions:—His kidneys, when taken out, were in a state of extreme congestion, perfectly dark, and full of blood. Some of the cysts, so common in kidneys, were found, and the capsule peeled off readily. The lungs showed a good deal of congestion, and contained a large number of cheesy deposits, some of which were going on to a calcareous condition. The aorta was observed to be rather more stained than usual, and there were a number of atheromatous patches surrounding the orifices and bronchial intercostal vessels. Since the time it was first exposed it has become more stained, which made me think that the stains were *post mortem*. The heart showed signs of fatty accumulation, especially on the left ventricle. There was no diseased condition of the cavity in the ventricle on the right side. On examining the cavity of the left ventricle an extremely well-marked rupture was found in the posterior aspect of that ventricle, commencing about an inch below the base, and travelling down an inch and a half. It, of course, explains the instantaneous death of the patient. The pericardium was full of blood, and there seemed to be some slight infiltration of blood in the neighbourhood of the rupture, which extended downwards for some considerable distance; and there is an appearance as if the force had tended to produce a continuation of the rupture higher up, but as if a band of strong structure had prevented the rupture from extending. It goes pretty straight through the ventricle. Looking at the structure of the heart at the place where the rupture is, the naked eye appearances do not indicate anything like extreme fatty degeneration; it simply looks a flabby, soft heart. Dr. Little took a specimen of the muscular fibres at the rupture, and I await a report from him as to their exact condition. The ventricle lower down shows more evidence of fatty degeneration than at the other parts, and immediately at the left of the

apex there is more, and yet the rupture has gone down towards the posterior aspect, where the fatty degeneration signs are not so marked. The orifices of the coronary arteries do not exhibit a stained or atheromatous condition, or the ossified condition which is recognised by some as causing the symptoms of angina. The aorta itself did present, shortly after it was taken out, some of the signs relied on by the late Sir Dominic Corrigan, as showing that there had been some antecedent endo-arteritis, but I think that the signs of staining were possibly altogether *post mortem*. He had had for two or three days before his death a more frequent recurrence of these attacks of angina than for some time before. My own view of the cause of the rupture was that he had a diseased arterial system, and congested kidneys. These conditions tend to impede the circulation of the blood, and thus a greater force of heart was required. On the day of his death, which was one of the very cold frosty days that occurred, he might have made some unusual exertion in going to the friend's house, and the heart being unable to propel the blood through the system, the ventricle gave way.—*January 29, 1881.*

Rupture of the Right Auricle of the Heart.—DR. DUFFEY also exhibited a specimen of rupture of the heart. A man, aged sixty-five, was found lying "half-smothered" on the floor of a room, his bed on fire, and the room full of smoke. He was immediately taken to Mercer's Hospital. When admitted there he was in a state of profound syncope, and unconscious. The surface of his body was quite pale and cold, the pulse extremely weak, but perceptible, and he had what the nurse described as spasms (? convulsions) of the upper extremities. Shortly after his arrival in the hospital he regained consciousness, and asked for a drink of water. He did not complain of pain. He stated that he had been working by the light of a paraffin lamp, when he got suddenly weak, and accidentally overturned the lamp, which rolled under the bed, and set fire to it. He had previously always enjoyed good health. In a short time he got much better, and saw his daughter. This interview, it is stated, appeared to excite him greatly. Soon after he got out of bed to the commode, and passed water, and I believe had a motion from his bowels. After getting into bed again he became extremely weak, and the symptoms which were so manifest on his admission returned, and he died suddenly. The period of time which elapsed from his first admission into hospital until his death was about an hour. A *post mortem* examination was made by the resident medical officer, Mr. Gaffney, at the instance of the coroner. The heart alone was examined. Mr. Gaffney informed me that on opening the pericardium he found that it contained both fluid and clotted blood. On further examining the heart a large rent was found in the posterior and upper surface of the right auricle. This rent measures three-quarters of an inch, and easily admits

the tip of the little finger. It is in an oblique direction, and the edges are comparatively smoothly cut. Evidently the internal or endocardial area of the aperture is larger than the external. The heart itself is hypertrophied. It has a large amount of fatty deposit in it, and to the naked eye is also apparently in a state of fatty degeneration. [A microscopic examination, made subsequently by Dr. Harvey, showed that there was marked pigmentary as well as fatty degeneration of the heart, and an extreme atheromatous condition of the coronary arteries and of their minute branches.] At a small portion of the left ventricular surface anteriorly, a thickening of the pericardium can be noticed, and immediately below this the ventricular wall has a deeper red colour than elsewhere. There was a small linear depression here, and a localised infiltration of blood to a small extent, and softening of the tissues in the immediate neighbourhood, but no actual rupture of the ventricle. The aorta is atheromatous, and the aortic valves are also atheromatous at their attached edges, and are thickened in patches. The chief point of interest is the time the patient lived after the probable occurrence of the rupture. The case bears out the view expressed by Dr. Walshe, that an aperture of comparatively small size, such as this is, may be filled up by coagulum, and so life prolonged for some hours, as in some cases he has noted. The two conditions of the blood in the pericardial sac, one portion being fluid and the other clotted, point to the probability of there having been two acts of hæmorrhage (Walshe). The situation of the rupture is remarkable. Out of a total of 95 cases of fatty degeneration of the heart, given in Dr. Hayden's tables,^a death resulted from rupture of the heart in 17 cases. In 8 of these 17 cases the seat of the rupture was the anterior wall of the left ventricle, and in 6 its posterior wall. In 1 it was the anterior surface of the right ventricle, and it was through the septum in the other 2. Thus the outer wall of the left ventricle was the seat of the rupture in no less than 14 out of 17 cases, and it occurred through the anterior more frequently than through the posterior wall, in the proportion of 8 to 6. In none of Dr. Hayden's own cases of fatty degeneration of the heart—22 in number—did death occur from rupture of the heart. In Quain's 22 cases referred to by Dr. Hayden, rupture occurred in the anterior wall of the left ventricle in 12 cases, and in its posterior wall in 5; in 2 cases in the right auricle, and in 2 in the right ventricle. All statistics of spontaneous rupture show that in nearly three-fourths of the cases the left ventricle is the seat of the rupture; in 12 per cent. the right ventricle; in 6 per cent. the right auricle; and that in not more than 2 or 3 per cent. is the rupture at the left auricle.^b There can be little doubt that the most common cause of rupture of the heart is fatty degeneration, such as was present in this instance. It is

^a *Diseases of the Heart*. P. 645.

^b Cf. *Ziemssen's Cyclopædia*. Vol. VI., p. 263.

also interesting to note the condition of the coronary arteries. We know that atheroma and subsequent embolic obstruction of these vessels are common causes of extravasation of blood into the substance of the heart. Such lesions are admittedly more common causes of rupture than acute or chronic myocarditis, or the formation of new growths in the heart. I venture to suggest that the rupture in this instance occurred when the man upset the lamp, and that the rent was temporarily plugged up by coagulum; and that it was probably when he was straining at stool that the second and fatal rupture took place.

PRESIDENT.—The ruptures on the right side of the heart are usually traumatic, and the result of direct or indirect violence, and in such cases there is frequently no external wound to attract attention. Admiral Villeneuve, it is well known, after his defeat by the English fleet, committed suicide by rupturing his heart with a needle. He inserted it into the right auricle.

DR. HAYDEN.—I am convinced that structural degeneration of the tissue of the heart invariably precedes rupture. The cases before the Society bear out this opinion. I would say that Dr. Corley's case will turn out to be an example of advanced degeneration of the structure of the heart. It is a flabby, soft heart. There is an absence of change of colour, but change of colour is not at all an essential condition of fatty degeneration of the structure of the heart. The man was some seventy years of age; he was also intemperate; and it would seem that he was exposed in the streets during the harsh weather. From that there would result a surface chill and engorgement of the deeper seated veins, and, of course, of the right auricle, with increased tension of the wall of that auricle. Then the draught of hot liquid would have acted as a stimulant to the heart. These are, of course, only speculations, but they might furnish the explanation of the case. I doubt not that when all the chambers of the heart have been examined, evidence will be found of structural degeneration in all. We all know that nutrition is more active on the left side of the heart than on the right, simply in accordance with the principle that increased activity of function determines increase of nutrition; and when retrogressive changes occur in these structures, it will also be found, in most cases at least, that the changes take place on the left side of the heart, and rarely on the right. In Dr. Corley's case there is well-exemplified fatty change in the right. In Dr. Duffey's case one might think that the venous stasis on the right side of the heart was the result of the state of asphyxia in which the man was found. This, of course, also would tend to surcharge the right chamber of the heart. I think that in nearly every case of rupture of the heart the internal strata of the chamber will be found to have been ruptured earlier than the outer; and, as a consequence of that, during the interval between the occurrence of the rupture of the inner strata and of the

outer portion, infiltration of the intervening part takes place. In both of the cases before the Society there is evidence of marginal infiltration of blood; and when Dr. Duffey examines the portion of the interior of the left ventricle corresponding to the small rent in the outer surface, he will find that that is borne out. I understood him to say that in the aperture of the right auricle there was evidence of more extensive destruction of the inner portion than of the outer.—*January 29, 1881.*

Myeloid Sarcoma of the Fibula.—DR. BOYD said: This specimen is a myeloid sarcoma of the fibula, which occurred in a girl twenty years of age. She was of good healthy appearance and constitution. Her leg was amputated by me on the 21st of the present month, in St. Michael's Hospital, Kingstown, and the history of her case somewhat the following:—About seven years ago, while playing with another girl, she got a kick on the external malleolus of the right ankle. Some pain and swelling of the foot and ankle followed, which continued for some weeks. However, with rest most of the swelling disappeared, leaving behind, as she said, a rather small, boggy, little swelling behind the ankle. This occasionally gave her pain in walking, but never to any great extent. About four years after the original injury the symptoms got aggravated, the malleolus becoming red and painful. She came up from Wicklow to Dublin, and went to the Mater Misericordiæ Hospital, where she came under the care of one of the surgeons. He recognised the case to be one of necrosis, and cut down on the malleolus, and removed some of the necrosed bone. She left the hospital apparently well, but a few weeks after her return home she noticed a small tumour making its appearance in the neighbourhood of the cicatrix. This continued to enlarge during the last three years, and within the last six months grew so rapidly as to double its previous size. She experienced very little pain even during the time of the rapid growth of the tumour, and was well able to walk about when I first saw her in St. Michael's Hospital. The only time she complained of pain was when she leant her weight on the foot, or if any sudden jar came on the leg she complained of some pain through it. I got her to bed, and on examining her I found a large tumour occupying the lower third of the fibula, about the size of a small cocoa-nut, and having an indistinct feeling of fluctuation and semi-elastic to the touch. In the neighbourhood of the cicatrix, where the former operation was performed, it felt quite soft, and I thought there was an abscess. I punctured it with a grooved needle, but there was no sign of any pus, and the only thing that came away was some blood, mixed with gelatinous matter. To the feel the tumour evidently had a bony attachment. It could not be moved over the bone, and round the base seemed hard and indurated, the only place where any firmness existed. I saw that I had some form of sarcomatous tumour to deal with, and after explaining the

nature of the growth to the patient, and that it might probably be necessary to remove the leg if I found that excision of the tumour could not be performed, and having obtained her consent, I put her under ether, applied an Esmarch's bandage, and made an incision over the tumour, from the centre of the fibula to the external malleolus. I carried another incision across from the under aspect of the ankle-joint to the posterior aspect of the tumour, and dissected the flaps, laying bare the tumour down to its bony attachments. I hoped there would be no necessity for the removal of the leg, though I might have to remove the portion of the fibula from which it sprung; but on making a deeper dissection towards the tibia, I found that the tumour had some attachment to that bone, and that the same fibro-cartilaginous capsule that covered the tumour was continuous with the periosteum covering the tibia. I therefore saw that there was nothing for me but to perform an amputation, which I did according to the method of Mr. Teele. The operation was perfectly successful. The temperature of the patient went up the day after the operation, and continued so for two or three days, until the dressing was removed. There was very little pus, and she is now doing very well, and the pulse and temperature are both coming down again. I submitted a portion of the tumour to Mr. Abraham for microscopic examination, and I cannot do better than give you his own account of the result. [Read note.] The question is whether the growth was endosteal, and of a bony origin, or whether it sprung from the periosteum. Its character appears to indicate that it must have grown from the bone of the fibula, for where the fibrous or cartilaginous capsule of the tumour comes into contact with the bone, the latter has become of a cartilaginous character, and continuous with the capsule of the tumour. In like manner, where it involved the tibia by its lateral growth, the capsule of the tumour seems continuous with the periosteum and the latter, the compact and cancellous tissue of which seems to be undergoing a change, and to be infiltrated with the myeloid matter.

DR. BENNETT.—Did the necrosis precede the tumour, or was it a mere accident?

DR. BOYD.—The necrosis was the original disease for which the girl was admitted into the Mater Misericordiæ Hospital three years ago, before the growth of the present tumour, and she was apparently quite cured after the operation for the removal of the necrosed bone.—*January 29, 1881.*